

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-11			
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:			
Contract Number EP-C-13-039		Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3		Title of Work Assignment/SF Site Name OWOW Geospatial Support					
Contractor ABT ASSOCIATES INC.				Specify Section and paragraph of Contract SOW C.1, C.7, D.1, D.2, E.7					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval				Period of Performance From 08/31/2016 To 07/31/2017					
Comments:									
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>									
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.									
SFO <input type="checkbox"/> (Max 2)									
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars) (Cents)	Site/Project (Max 8)	Cost Org/Code
1									
2									
3									
4									
5									
Authorized Work Assignment Ceiling									
Contract Period:		Cost/Fee:		LOE:					
09/11/2013 To 07/31/2017				0					
This Action:				794					
Total:				794					
Work Plan / Cost Estimate Approvals									
Contractor WP Dated:				Cost/Fee		LOE:			
Cumulative Approved:				Cost/Fee		LOE:			
Work Assignment Manager Name Tommy Dewald <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-566-1178 FAX Number:			
Project Officer Name Ahmar Siddiqui <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-566-1044 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Tammy Adams <div style="display: flex; justify-content: space-between;"> <div> TAMMY ADAMS Digitally signed by TAMMY ADAMS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417 Date: 2016.08.31.15:36:09 -04'00' </div> <div>_____ (Signature)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2030 FAX Number: 513-487-2545			

WORK ASSIGNMENT

I. Title: OWOW Geospatial Support

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 3-11

III. Estimated Period of Performance: Date of Issuance through July 31, 2017

IV. Estimated Level of Effort: 794

V. Key EPA Personnel:

Work Assignment Contracting Officer's Representative (WACOR): Thomas G. Dewald
OWOW/AWPD (4503T)
202/566-1178
202/566-1437 (fax)

VI. Background and Purpose:

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The purpose of this Work Assignment (WA) is to provide for the continuing support and application of the Office of Water's surface water geospatial framework, known as NHDPlus (National Hydrography Dataset Plus) (The contract Performance Work Statement section E.7), to EPA and the larger water resources community. The NHDPlus framework enables improved display and analysis (upstream/downstream) of environmental data for most facets of the EPA Water Program, including wastewater management, water quality assessments and impairments. The framework is comprised of the national digital stream network and the local drainage area (catchments) for each stream segment, which allows any water-related environmental data that are either on the network (such as permitted dischargers or monitoring sites) or on the landscape (such as land cover and soil type) to be related – to better identify and understand the implications of existing and potential pollution sources. NHDPlus stream flow volume and velocity attributes associated with the stream network also make dilution modeling for pollutants possible. These collective capabilities support both the CWA and the Safe Drinking Water Act (SDWA).

This WA will accommodate technical support and outreach for NHDPlus geospatial data and tools that work with the data. All activities are within the scope of the contracts PWS sections C, D and E as noted on the individual tasks.

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The work performed under this work assignment will not duplicate work conducted under the previous work assignments.

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The contractor shall manage projects in accordance with the industry standard project management practices such as the Project Management Institute's (PMI) Project Management Body of Knowledge (PMBOK) or PProjects IN Controlled Environments Version 2.0 (PRINCE2). The contractor shall develop appropriate project management artifacts including:

- Work plan
- Baseline schedule and any updated schedules
- Work breakdown structure
- Risk Management Plan
- Quality Assurance Plan

All final versions of these project management artifacts shall be stored in Enterprise Project Management Environment (EPM) or a similar project management (PM) tool unless otherwise requested by the WACOR.

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The contractor shall check in all source code to the EPA Office of Water's Team Foundation Server (TFS) or other EPA approved code repository environment (as requested by the WACOR) and link all code packages to appropriate test cases which are also to be stored in TFS.

Task 1 - Prepare Work Plan and Other Project Management Artifacts

The contractor shall prepare a work plan and other project management artifacts within the specified number of calendar days of receipt of the work assignment. The work plan shall

outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WACOR, the CL-COR, and the CO will review the work plan. However, only the CO can approve/disapprove, suggest revisions, or change the work plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised work plan incorporating the CO's comments, if required. See task 2 below for quality assurance document requirements. Updates will be made to these project management documents by the Contractor, as required, to keep them current. In addition, a monthly project management meeting and a weekly update meeting with the EPA WACOR will be required to discuss progress and plan on deliverables, costs, and other potential issues for this work assignment. Financial and progress reports showing planned and actual expenses and estimated completion will be provided monthly.

Deliverables and schedule under Task 1

- 1a. Workplan within 15 calendar days of receipt of this WA.**
- 1b. Baseline schedule and any updated schedules within 20 business days of receipt of this WA.**
- 1c. Work Breakdown Structure (or equivalent) within 20 business days of receipt of this WA.**
- 1d. Risk Management Plan within 20 business days of receipt of this WA.**
- 1e. Project management meetings once a month.**
- 1f. Financial and Progress Reports once a month.**
- 1g. Project team meetings once a week.**

Task 2 - Quality Assurance

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP prior to the commencement of the work. The contract includes the Quality Assurance Surveillance Plan.

QA Project Plan Requirements

EPA policy requires that an *approved* QAPP be in place before any work begins that involves the collection, generation, evaluation, analysis or use of environmental data. The work to be performed by the Contractor under this work assignment involves such activities; in order to comply with this requirement:

- The contractor shall prepare and submit a QAPP documenting how quality assurance (QA) and quality control (QC) will be applied to the generation, collection, evaluation, analysis and use of environmental data within 15 days after submittal of the work plan.
- EPA will review the submitted QAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.
- The Contractor shall revise the submitted QAPP within 10 days of receipt, unless otherwise instructed by the EPA WACOR.

- Under no circumstances shall field sampling or laboratory analysis activities be conducted prior to receipt of an approved work plan.

The contractor shall write the QAPP using the active voice. The QAPP shall address the **generation** (including field studies, laboratory studies, and modeling output), **collection** (including surveys, literature searches, and third party data), **evaluation** (including data inspection, review, assessment, and validation), **analysis** (including statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models) **and use of data** to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, methods, criteria, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs). Examples of data include, but are not limited to, wastewater sample analysis results, flow measurements or data, facility or economic questionnaire data, economic data, use of models, secondary data (including sources and the acceptance criteria), any software and database management requirements and any other relevant work that might affect the quality of the data. Note that QAPPs are also required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. For example, when existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model, how it will be used, and how the model output will be evaluated to ensure it meets the overall quality objectives for the project. However, development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

The QAPP shall provide enough detail to clearly describe objectives of the project supported by the work assignment; the type of data to be collected, generated, or used under this work assignment to support the project objectives; the quality objectives needed to ensure that these will support the project objectives; and the quality assurance and quality control activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed. The QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, Standard Operating Procedures (SOP), or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as SOPs, checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

When preparing the QAPP, the Contractor shall address the following general questions applicable to all QAPPs. These questions may be directly addressed within the format of the QAPP to the maximum extent possible, and/or may be addressed in a separate section or

addendum to the QMP.

General Questions Applicable to all QAPPs that support all projects

- What is the objective/goal of this effort?
- What are the roles and responsibilities of staff who will support this project, and how to they relate to the specific key steps
- What training and competency requirements are necessary for key personnel that will support the project?
- If models will be used to support the project, what are these models, why have they been selected, and how will they be validated, documented and used?
- What are the SOPs, tools and checklists that will be used?

Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version will be included in the public docket for the applicable rulemaking (or other docket or record), and the unsanitized version will be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP must be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WACOR can easily identify the areas that will require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WACOR, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WACOR will notify the Contractor through written technical direction.

Additional QA Documentation Required

In addition to the QAPP requirements described above, all major deliverables (e.g., Technical

Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignments must include a discussion of the QA/QC activities that were or will be performed to support the deliverable. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

Deliverables and schedule under Task 2

2a. Revised existing QA Plan (developed under WA 1-11) to reflect additional work in Tasks 4-5 within 15 days after submittal of the Contractor's work plan.

2b. If required by EPA WACOR, contractor shall revise plan within 10 days of receipt of comments from the EPA WACOR, unless otherwise requested by the EPA WACOR.

2c. Monthly reports of QA work performed (may be included in the Contractor's monthly progress report.)

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WACOR will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WACOR's comments, if required. After receiving notification of approval the contractor shall use this standardized convention for all deliverables associated with the work assignment(s). The EPA WACOR may request the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

3a. SNCVC memorandum within 7 calendar days of work plan approval.

3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WACOR, at technical direction of EPA WACOR.

Task 4 – Provide NHDPlus Technical Support (Contract PWS Sections C.1, C.7, E.7)

The Contractor shall provide NHDPlus technical support and consultation to users, including trouble-shooting and applications consultation, over the phone, by email and face-to-face. The

Contractor shall produce a log of these activities that includes number of user consultations as well as user name, organization and application (when applicable). It is expected that there will be approximately 3-5 technical consultations per day, 1 NHDPlus team call per week, and 1 NHD Technical Advisory call per week.

Deliverables and schedule under Task 4

4a. Technical support and consultation (ongoing)

4b. Technical support and consultation log, (due the 1st day of each month)

Task 5 – Provide NHDPlus Training and Outreach (Contract PWS Sections D.1, D.2, E.7)

The Contractor shall prepare materials for and conduct NHDPlus-related presentations and training at meetings, workshops, conferences, as requested by the EPA WACOR. It is expected that there will be approximately 2-4 presentations and training sessions per year.

The Contractor shall maintain and enhance the content of the NHDPlus Web site as a mechanism for distributing NHDPlus-related documents and data. The NHDPlus Web site is accessible through the EPA domain and should be referenced from the United States Geological Survey (USGS) NHD Web site (nhd.usgs.gov). Web site content will be specified and approved in advance of release by the EPA WACOR.

Deliverables and schedule under Task 5

5a. Presentations and training with materials, due as requested by the EPA WACOR including:

5a.1 Recorded NHDPlus Advanced User training (7/31/17)

5b. NHDPlus Web Site

5b.1 Operations and maintenance (ongoing)

5b.2 Enhancement, due as requested by the EPA WACOR

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Contractor: Abt Associates

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QA Project Plan Requirements

EPA policy requires that an *approved* QAPP be in place before any work begins that involves the collection, generation, evaluation, analysis or use of environmental data. The work to be performed by the Contractor under this work assignment involves such activities; in order to comply with this requirement:

- The contractor shall prepare and submit a QAPP documenting how quality assurance (QA) and quality control (QC) will be applied to the generation, collection, evaluation, analysis and use of environmental data within 15 days after submittal of the work plan.
- EPA will review the submitted QAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.

- The Contractor shall revise the submitted QAPP within 10 days of receipt, unless otherwise instructed by the EPA WACOR.
- Under no circumstances shall field sampling or laboratory analysis activities be conducted prior to receipt of an approved work plan.

The contractor shall write the QAPP using the active voice. The QAPP shall address the **generation** (including field studies, laboratory studies, and modeling output), **collection** (including surveys, literature searches, and third party data), **evaluation** (including data inspection, review, assessment, and validation), **analysis** (including statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models) **and use of data** to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, methods, criteria, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs). Examples of data include, but are not limited to, wastewater sample analysis results, flow measurements or data, facility or economic questionnaire data, economic data, use of models, secondary data (including sources and the acceptance criteria), any software and database management requirements and any other relevant work that might affect the quality of the data. Note that QAPPs are also required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. For example, when existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model, how it will be used, and how the model output will be evaluated to ensure it meets the overall quality objectives for the project. However, development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

The QAPP shall provide enough detail to clearly describe objectives of the project supported by the work assignment; the type of data to be collected, generated, or used under this work assignment to support the project objectives; the quality objectives needed to ensure that these will support the project objectives; and the quality assurance and quality control activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed. The QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as standard operating procedures (SOPs), checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

When preparing the QAPP, the Contractor shall address the following general questions

applicable to all QAPPs. These questions may be directly addressed within the format of the QAPP to the maximum extent possible, and/or may be addressed in a separate section or addendum to the quality management plan (QMP).

General Questions Applicable to all QAPPs that support all projects

- What is the objective/goal of this effort?
- What are the roles and responsibilities of staff who will support this project, and how to they relate to the specific key steps
- What training and competency requirements are necessary for key personnel that will support the project?
- If models will be used to support the project, what are these models, why have they been selected, and how will they be validated, documented and used?
- What are the SOPs, tools and checklists that will be used?

Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version will be included in the public docket for the applicable rulemaking (or other docket or record), and the unsanitized version will be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP must be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WACOR can easily identify the areas that will require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WACOR, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WACOR will notify the Contractor through written technical direction.

Additional QA Documentation Required

In addition to the QAPP requirements described above, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignments must include a discussion of the QA/QC activities that were or will be performed to support the deliverable. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

Deliverables and schedule under Task 2

2a. Revised existing QAPP (developed under WA 1-11) to reflect additional work in Tasks 4-5 within 15 days after submittal of the Contractor's work plan.

2b. If required by EPA WACOR, contractor shall revise plan within 10 days of receipt of comments from the EPA WACOR, unless otherwise requested by the EPA WACOR

2c. Monthly reports of QA work performed (may be included in the Contractor's monthly progress report.)

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WACOR will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WACOR's comments, if required. After receiving notification of approval the contractor shall use this standardized convention for all deliverables associated with the work assignment(s). The EPA WACOR may request the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

3a. SNCVC memorandum within 7 calendar days of workplan approval.

3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WACOR, at technical direction of EPA WACOR.

Task 4 – Provide NHDPlus Technical Planning (Sections C.1, C.7, E.7)

The Contractor shall provide NHDPlus technical planning support for the next version of NHDPlus, including identifying and preparing required ingredient data, testing the most current NHDPlus build/refresh tools, producing core and ancillary data and metadata products, migrating current application tools, revising data product distribution processes, and updating user documentation and training materials.

Deliverables and schedule under Task 4

4a. Draft NHDPlus Version 3 Technical Planning Document (12/15/16)

4b. Final NHDPlus Version 3 Technical Planning Document (1/31/17)

Task 5 – Provide NHDPlus Training and Outreach (Sections D.1, D.2, E.7)

The Contractor shall prepare materials for and conduct NHDPlus-related presentations and training at meetings, workshops, conferences, as requested by the EPA WACOR. It is expected that there will be approximately 2-4 presentations and training sessions per year.

The Contractor shall maintain and enhance the content of the NHDPlus Web site as a mechanism for distributing NHDPlus-related documents and data. The NHDPlus Web site is accessible through the EPA domain and should be referenced from the United States Geological Survey (USGS) NHD Web site (nhd.usgs.gov). Web site content will be specified and approved in advance of release by the EPA WACOR.

Deliverables and schedule under Task 5

5a. Presentations and training with materials, due as requested by the EPA WACOR including:

5a.1 Recorded NHDPlus Advanced User training (7/31/17)

5a.2 Transcripts for NHDPlus Workshop Presentations (11/30/16)

5b. NHDPlus Web Site

5b.1 Operations and maintenance (ongoing)

5b.2 Enhancement, due as requested by the EPA WACOR

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-11				
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001				
Contract Number EP-C-13-039			Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3			Title of Work Assignment/SF Site Name OWOW Geospatial Support				
Contractor ABT ASSOCIATES INC.					Specify Section and paragraph of Contract SOW C.1, C.7, D.1, D.2, E.7					
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval					Period of Performance From 09/26/2016 To 07/31/2017					
Comments: Several deliverables in the work plan under table 2.1 on page 5 are incorrect and shall be revised to read as follows: 4a. Draft NHDPlus Version 3 Technical Planning Document (12/15/16), 4b. Final NHDPlus Version 3 Technical Planning Document (1/31/17), and 5a.1 Recorded NHDPlus Advanced User training (7/31/17). This work plan is being approved contingent upon making the above corrections.										
<input type="checkbox"/> Superfund					Accounting and Appropriations Data					<input checked="" type="checkbox"/> Non-Superfund
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00		LOE: 0						
09/11/2013 To 07/31/2017										
This Action:		\$74,943.00		525						
Total:		\$74,943.00		525						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 10/11/2016		Cost/Fee \$74,943.00		LOE: 525						
Cumulative Approved:		Cost/Fee \$74,943.00		LOE: 525						
Work Assignment Manager Name Tommy Dewald						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;">(Signature)(Date)</div>						Phone Number: 202-566-1178				
						FAX Number:				
Project Officer Name Ahmar Siddiqui						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;">(Signature)(Date)</div>						Phone Number: 202-566-1044				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;">(Signature)(Date)</div>						Phone Number:				
						FAX Number:				
Contracting Official Name Tammy Adams						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;">(Signature)(Date)</div>						Phone Number: 513-487-2030				
						FAX Number: 513-487-2545				

Digitally signed by TAMMY ADAMS
 DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS,
 dnQualifier=0000018417
 Date: 2016.11.01 14:47:37 -04'00'

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-13								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-C-13-039	Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3	Title of Work Assignment/SF Site Name Alaska Seafood ELG Econ Suppor								
Contractor ABT ASSOCIATES INC.		Specify Section and paragraph of Contract SOW Section VI, para. 1,2, 3								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 08/01/2016 To 07/31/2017								
Comments: Performance on this Work Assignment shall not begin until August 1, 2016.										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations date use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
09/11/2013 To 07/31/2017				0						
This Action:				510						
Total:				510						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee		LOE:						
Cumulative Approved:		Cost/Fee		LOE:						
Work Assignment Manager Name Todd Doley						Branch/Mail Code:				
<div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Phone Number: 202-566-1160				
						FAX Number:				
Project Officer Name Ahmar Siddiqui						Branch/Mail Code:				
<div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Phone Number: 202-566-1044				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
<div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Phone Number:				
						FAX Number:				
Contracting Official Name Tammy Adams						Branch/Mail Code:				
<div style="display: flex; justify-content: space-between;"> <div> TAMMY ADAMS <small>Digitally signed by TAMMY ADAMS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417 Date: 2016.07.28 16:15:36 -04'00'</small> </div> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Phone Number: 513-487-2030				
						FAX Number: 513-487-2545				

Contract: EP-C-13-039
Work Assignment: 3-13

I. Title: Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 3-13

III. Estimated Period of Performance: August 1, 2016 to July 31, 2017

IV. Estimated Level of Effort: 510 hours

V. Key EPA Personnel:

Work Assignment Contracting Officers Representative (WACOR):

Todd Doley
U.S. EPA/OW/OST/EAD (4303T)
EPA West, Room 6233Z
1200 Pennsylvania Ave., N.W.
Washington, DC 20460
Phone: 202-566-1160
Fax: 202-566-1053
Email: doley.todd@epa.gov

Alternate Work Assignment Contracting Officers Representative (Alt WACOR):

Wendy Hoffman
U.S. EPA/OW/OST/EAD (4303T)
EPA West, Room 6233S
1200 Pennsylvania Ave., N.W.
Washington, DC 20460
Phone: 202-564-8794
Fax: 202-566-1053
Email: hoffman.wendy@epa.gov

VI. Background and Purpose:

In 1980, the Environmental Protection Agency (EPA or Agency) received an industry petition requesting that EPA suspend effluent guideline regulations (ELGs) applicable to seafood processors in “non-remote”

locations in Alaska, and a second petition for changes in the regulations by rulemaking. In a Federal Register notice dated January 20, 1981, EPA published a proposed response which denied the first petition and maintained the status of four of five locations (Anchorage, Cordova, Ketchikan and Petersburg) as “non-remote” processing centers. The proposed response granted the petition for Juneau, thus changing the status of that location to “remote.” The proposed response also indicated that the earlier suspension of the regulations would remain in effect until EPA issued a final response to the petition. The Agency never completed a final response to this petition.

In 2010, EPA began the process leading to a final decision to amend the regulations. The Agency sent questionnaires to owners and operators of seafood processing facilities in Anchorage, Cordova, Juneau, Petersburg, Dutch Harbor, Ketchikan and the Kenai Peninsula. EPA conducted supporting analyses to update the 1981 proposal and published information gathered recently from the questionnaires and other publicly available sources. These data relate to the Alaskan seafood subcategories of the Seafood Processing Effluent Guidelines at 40 CFR Part 408.

The data show a significant impact associated with near-shore discharges of seafood waste in locations where EPA suspended the “non-remote” requirements. The primary concern with these discharges is the formation and persistence of fish waste piles which cover large areas of the seafloor and contain large quantities of solids that negatively affect receiving water quality. These piles range in area from less than an acre to tens of acres, and from relatively thin coverage of the bottom, up to many feet thick. Even a thin layer of waste smothers benthic communities, and the piles deplete dissolved oxygen and cause other harmful impacts on the aquatic ecosystem. In some cases, large waste piles do not dissipate, even with flushing from tides and strong channel currents. Where discharges have stopped, fish waste piles and their effects can remain for 10 years or longer.

EPA published a Notice of Data Availability (NODA) in the Federal Register on November 7, 2013, which provided preliminary results of analyses of the updated data discussed above, and indications of how these results might be reflected in revised regulations which EPA plans to promulgate as its final response to the industry petitions. In particular, the NODA indicated that EPA may reinstate the originally promulgated ELGs based on screening technology for all non-remote locations. EPA also solicited public comment on possibly extending the definition of non-remote to additional locations, including Dutch Harbor, Sitka, the Kenai Peninsula, and possibly others that have similar characteristics such as Naknek.

The public comment period for the NODA closed on March 7, 2014. In addition to the final response to the petition, EPA will respond to all the comments it received during the public comment period. EPA also may promulgate in final form amended ELGs applicable to certain Alaskan seafood processing discharges.

The 1972 Clean Water Act (CWA) directs EPA to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to provide technical support to EPA in

completing its response to the industry petitions. This support includes preparing responses to the comments EPA received on economic issues in the recently published NODA, and updating economic analyses prepared by a different contractor under Contract 68-C-02-095. The contractor has begun to revise the economic analysis with new engineering cost estimates which have been revised based on comments EPA received. The contractor is also making significant changes to methodologies the previous contractor used, as well as correcting data entry errors in the spreadsheets underlying the analysis.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance (QA) project plan that was based on Task 2 QAPP language. The QAPP shall describe the procedures for assuring the quality of the primary and existing economic data used for this work assignment.

In carrying out the tasks specified in this work assignment, the contractor may be called upon to build upon and continue work performed under WAs 0-13, 1-13, and 2-13 under this contract and various WAs under EPA Contract 68-C-02-095 with another contractor.

Under the previous work assignments, Abt Associates performed the following analyses, among others:

- Began drafting the *Cost and Economic Impact Analysis for Alaska Seafood Processing Regulation* based on the earlier *Report to the Record Costs and Impact Analysis for Alaska Seafood Processors (Facilities and Firms)* originally prepared under Contract 68-C-02-095.
- Prepared numerous memos on economic analysis methodology issues, such as industry employment trends and the effects of seasonality on the cost and impact analyses.

Work performed under this work assignment shall not duplicate any work previously performed under WAs 0-13, 1-13, and 2-13 under this contract.

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating confidential business information (CBI). The contractor shall adhere to EPA's CBI policy and other procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor shall not disclose any CBI to anyone other than EPA without prior written approval provided by the EPA WACOR. The contractor shall, at all times, adhere to CBI procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be identified clearly as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor should refer all interpretations of policy to the EPA.

Limitation of Contractor Activities: The contractor shall submit drafts of all deliverables to the EPA WACOR for review prior to submission of the final product. These drafts shall clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor shall incorporate all EPA WACOR comments into all final deliverables, unless otherwise agreed upon by the EPA WACOR.

Quick Response: Under this Performance Work Statement, the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working calendar days.

Travel: EPA does not anticipate the need for non-local travel by contractor employees and/or subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters shall be provided in hard copy and in electronic form using Word and/or Excel/Access or, in special cases, another software program agreed to in advance by EPA. For deliverables that are in Word or pdf versions of Word documents, and that are intended to be shared with EPA management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether or not decimal places are reported. All final materials, e.g., memos, comment response essays, chapters, etc. are to be prepared only after receiving written technical direction provided by the EPA WACOR.

Monthly Progress Reports: The monthly progress reports shall include reporting hours and funds spent under this WA on a task-by-task basis.

VIII. Performance Work Statement

Task 1 - Prepare Work Plan

Estimated LOE hours: 20 hours

The contractor shall prepare a work plan within 15 calendar days after receipt of the work assignment signed by the Contracting Officer. The work plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WACOR, the Contract Level Contracting Officer Representative (CL-COR) and the Contracting Officer (CO) will review the work plan. However, only the CO can approve/disapprove, suggest revisions, or change the work plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised work plan incorporating the CO's comments, if required.

The contractor shall include the completed Table 1 as a separate Appendix A to the workplan upon submittal to EPA (See task 2 below). This Appendix A should be a stand-alone document if QA documentation is requested, therefore the Table 1 title must include the title of the WA, WA number, contract number, and what projects each covers. The WACOR has provided this information in the title, which the contractor may use to fulfill this requirement. If the contractor's review of this WA and Table identifies potential additional requirements, they should be discussed with the WACOR.

Deliverables and schedule

1. Work plan is due 15 calendar days after receipt of work assignment.

Task 2 – Prepare Quality Assurance Project Plan

Estimated LOE for Task 2: 20 hours

Task 2 - Quality Assurance

2.1 Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP in place prior to the commencement of the work. Examples of these environmental data operations are provided in Table 2.1 below.

Table 2.1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The Contractor has previously prepared a contract-wide Programmatic QAPP (PQAPP) for Contract EP-C-13-039. This PQAPP describes, in a single document, information that is not site or time-specific, but applies throughout the program (i.e., the duration of the contract). When tasked with preparing the PQAPP, the Contractor was informed that the PQAPP may need to be supplemented with project-specific details to support individual work assignments that involve the collection, generation, evaluation, analysis, or use of environmental data.

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing environmental data (also known as “secondary” use of data). However, EPA has determined that the Contractor is operating under the existing PQAPP and that the PQAPP addresses QA requirements for this work assignment. In support of this work assignment, the Contractor shall ensure that the work plan provides enough detail to clearly describe:

- Specific objectives of the project(s) supported by this work assignment.
- The type of data to be gathered or used under this work assignment to support the project objectives—including data from search engines, federal databases, EPA data bases, letters from industry—as a well as a rationale for when those sources are appropriate and what data available in each will support the project
- The quality objectives needed to ensure the data will support the project objectives, and
- The quality assurance and quality control (QA/QC) activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

Table 1 at the end of this WA demonstrates how the PQAPP addresses QA requirements for this work assignment. The contractor shall fill in staff roles to the Table 1 checklist under A.4 and make any additional detailed notes in the ‘explanatory comments’ column as requested by the WACOR.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes.

For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting the project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Analytical Methods) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were performed to support the deliverable. Upon receipt, the EPA WACOR will review each applicable report and certify whether the Contractor has adhered to the QA requirements documented in the Contractor's PQAPP.

The Contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the Contractor may include this as a part of the contract-required monthly financial/technical progress report. If the contractor's monthly reports identify potential additional QA requirements, they should be discussed with the WACOR.

2.4 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and Supplemental QAPPs (SQAPPs).) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractor should indicate which results were obtained using the tools (standard operating procedures (SOPs), checklists, and guidelines) that the Contractor designates as confidential so that the EPA WACOR can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WACOR, the contractors may be requested to prepare pre-dissemination review checklist as described in Appendix B of the Office of Water Quality Management Plan, April, 2015. If this is required, the EPA WACOR will notify the Contractor through written technical direction.

Deliverables and schedule under Task 2

- 2. Monthly reports of QA work performed (may be included in the Contractor's monthly progress report).**

Task 3 - Adherence to the Standardized Naming Convention and Version Control

Estimated LOE hours: 0 hours

The contractor shall adhere to the EPA WACOR approved standardized naming convention and version control (SNCVC) plan which was developed under the Construction and Development WA 0-01 of Contract EP-C-07-023 (WA0-01_T1_SNCVC_08.31.07_V1.pdf). The contractor shall use this standardized convention for all deliverables associated with this work assignment.

Task 4 – Economic Cost and Impact Analytical Support

Estimated LOE hours: 225 hours

4.1 Completion of Economic Analysis

Under this sub-task, the contractor shall finish writing the *Cost and Economic Impact Analysis for Alaska Seafood Processing Regulation* begun under the previous WA 2-13. The final draft of economic analysis shall be provided to the EPA WACOR for an initial review. Once the EPA WACOR completes the initial review of the draft final document and provides revisions and/or comments to the contractor, the contractor shall incorporate the changes into the final document. All comments will be provided to the contractor through written technical direction by the EPA WACOR.

The contractor shall prepare CBI and non-CBI versions of the final economic analysis. All CBI shall be handled in accordance with the General Requirements of the Work Assignment and Schedule section of the PWS described in Section VII above.

4.2 Completion of Responses to Comments

Under this sub-task, the contractor shall provide support in drafting responses to public comments on the NODA that pertain to the financial cost or economic impacts associated with the rulemaking. The contractor shall prepare draft comment responses for the EPA WACOR to review. Once the EPA WACOR reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials, incorporating the EPA WACOR's comments. Work under this task shall not duplicate any work performed under any other task of this WA.

Deliverables and schedule

4.1a. Final draft economic analysis, is due September 30, 2016. The EPA WACOR will provide written comments on the draft.

4.1b. Final economic analysis is due two weeks after receipt of comments from the EPA WACOR, but no later than July 31, 2017.

4.2a. Final draft of responses to comments, is due October 31, 2016. The EPA WACOR will provide written comments on the draft.

4.2b. Final responses to comments is due two weeks after receipt of comments from the EPA WACOR, but no later than July 31, 2017.

Task 5 – Provide Technical Support for Rulemaking Activities

Estimated LOE hours: 225 hours

The contractor shall provide technical support related to economic cost and impacts assessment activities associated with the final petition response. This support may include responding to management questions about economic issues and preparing memorandums and spreadsheets, as well as tables and charts suitable for presentations. Under this WA, the contractor shall assist the WACOR in assembling and uploading rulemaking docket materials, and archiving rulemaking project files. EPA expects the number of projects to be between four and six. For the purpose of costing, the contractor should assume that two of these requests will require quick responses.

The contractor shall prepare draft materials, including comment responses, for the EPA WACOR to review. Once the EPA WACOR reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WACOR's comments. Work under this task shall not duplicate any work performed under any other task of this WA.

Deliverables and schedule

Task 5a. Response to comment drafts are due three weeks after receipt of written technical direction from the WACOR. Draft quick response deliverables are due one week after receipt of written technical direction from the EPA WACOR. All other draft deliverables are due two weeks after receipt of written technical direction from the EPA WACOR.

Task 5b. All final deliverables are due two weeks after the contractor receives comments from the EPA WACOR, but no later than July 31, 2017.

Task 6 – Provide up-date material for the EAD ELG Database

Estimated LOE hours: 20 hours

After the completion of the rulemaking package, including the rule preamble and economic and benefits documents, the contractor shall submit to the EPA WACOR information and data to complete the ELG Database template (the template shall be provided by the EPA WACOR) for the Alaska Seafood Processors ELG final rule analysis. This information will be stored in Engineering and Analysis Division's (EAD's) ELG Database. This task shall take no more than 20 hours to complete.

Deliverables and schedule

6. ELG Database template due 21 calendar days after signature by the Administrator. The contractor will be notified of the signature date by the EPA WACOR.

EAD Checklist for WA 3-13 Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract EP-C-13-039, Utilizing Existing Data

The items noted in this checklist are adapted from those elements found in *EPA Requirements for QA Project Plans (QA/R-5)* (EPA, 2001a), but tailored to the use of existing data.

Table 1. EAD Checklist for WA 3-13 Utilizing Existing Data

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
Title & Approval Sheet							
Project title	X		X				
Organization's name	X		X				
Effective date and/or version identifier	X		X				
Dated signature of Organization's project manager	X		X				
Dated signature of Organization's QA manager	X		X				
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	X		X				
Revision History	X		X				
Table of Contents							
Includes sections, figures, tables, references, and appendices	X		X				
Document control information indicated (when required by the EPA Project Manager and QA Manager)		X					
Distribution List							
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	X		X				
Project/Task Organization							
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	X		X				PQA _____ Completed Checklist attached to work plan
Organization chart shows lines of authority & reporting responsibilities	X		X				
Project QA manager position indicates independence from unit collecting/using data	X		X				
Problem Definition/Background							
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested	X		X				
Identifies project objectives or goals	X		X				
Historical & background information		X					
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	X		X				
Project/Task Description							
List measurements to be made/data to obtain	X		X				

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
Notes special personnel or equipment requirements		X					
Provides work schedule		X					
Overall Quality Objectives & Criteria							
States overall quality objectives and limits needed to support the project goals and objectives cited in Element A5.	X		X				
Special Training Requirements/ Certifications							
Identifies specialized skills, training or certification requirements	X		X				
Discusses how this training will be provided/the necessary skills will be assured and documented	X		X				
Project-level Documents & Records							
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff	X		X				
Identifies final work products that will result from the project	X		X				
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes	X		X				
. Data Needs							
Detailed list/description of the specific data elements needed to support project goals	X		X				
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)	X		X				
If project includes development or update of a project database, QAPP identifies and defines each database field		X					
. Potential Data Sources							
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use	X		X				
If literature searches are used, describes the search engines that will be used and key search terms	X		X				
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains	X		X				
For other potential sources, describe the potential sources and rationale for considering or using each one	X		X				

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
Criteria for Selecting Data Sources							
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)	X		X				
Explains rating system used to evaluate source against each criterion	X		X				
Data Value Selection Approach							
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project	X		X				
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented	X		X				
Resolving Data Gaps							
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified	X		X				
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)	X						
Data Gathering Documentation and Records							
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	X		X				
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	X		X				

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
Standardization of Data Elements							
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, ug/L for chemical data), identifies the standard units that will be required for each data element	X		X				See above
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly	X		X				See above
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units	X		X				See above
Data Entry							
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039
Merging or Uploading Electronic Data from Existing Sources							
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039
Data Review							
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039
Data Storage and Manipulation							
Describes how the existing data will be stored	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
Describes who will be responsible for access to and maintenance of the stored data	X		X				See above
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made	X		X				See above
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation	X		X				See above

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
. Data Quality Verification and Data Quality Reporting							
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039
Describes how these determinations will be documented and reported.	X		X				See above
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented	X		X				See above
. Use/Analysis of the Existing Data							
Provides details regarding the exact means in which the data will be used to meet project objectives	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations	X		X				See above
Includes applicable calculations and equations (if known) or explanations of how they will be developed.	X		X				See above
Includes plans for excluding outliers.	X		X				See above
. Methodology Documentation and Conceptual Review							
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/ approving their use, and how the methodologies will be checked to ensure they yield the desired products	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039

QAPP Element	A = Applicable N/A = Not applicable		Covered in PQAPP?	Covered in SQAPP?	Ac = Acceptable NAc = Not Acceptable		Comments
	A	N/A			Ac	NAc	
. Technical Review of the Data Analysis							
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes	X		X				See above
. Final Verification of Data Analysis and Reconciliation with User Requirements							
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives	X		X				See Checklist for WA 1-13, Economic Support for EPA Response to Industry Petition on ELGs for Non-Remote Alaskan Seafood Processors, Contract E C-13-039
Describes how the results of this assessment will be documented	X		X				See above
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated	X		X				See above

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-13				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-13-039			Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3			Title of Work Assignment/SF Site Name WA 3-13				
Contractor ABT ASSOCIATES INC.					Specify Section and paragraph of Contract SOW Section 2 paragraph 2					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval					Period of Performance From 08/01/2016 To 07/31/2017					
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00		LOE: 0						
09/11/2013 To 07/31/2017										
This Action:		\$60,066.00		510						
Total:		\$60,066.00		510						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 08/16/2016		Cost/Fee \$60,066.00		LOE: 510						
Cumulative Approved:		Cost/Fee \$60,066.00		LOE: 510						
Work Assignment Manager Name Todd Doley						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;"> (Signature) (Date) </div>						Phone Number: 202-566-1160				
						FAX Number:				
Project Officer Name Ahmar Siddiqui						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;"> (Signature) (Date) </div>						Phone Number: 202-566-1044				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;"> (Signature) (Date) </div>						Phone Number:				
						FAX Number:				
Contracting Official Name Tammy Adams						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;"> (Signature) (Date) </div>						Phone Number: 513-487-2030				
						FAX Number: 513-487-2545				

Digitally signed by TAMMY ADAMS
 DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY
 ADAMS, dnQualifier=0000018417
 Date: 2016.09.07 13:14:12 -04'00'

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-15								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-C-13-039	Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3	Title of Work Assignment/SF Site Name 2017 Emissions Inventory Confe								
Contractor ABT ASSOCIATES INC.		Specify Section and paragraph of Contract SOW D-2, Training and Logistical Support								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/26/2016 To 07/31/2017								
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations date use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:				LOE:				
09/11/2013 To 07/31/2017										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee			LOE:			
Cumulative Approved:				Cost/Fee			LOE:			
Work Assignment Manager Name Kim Paylor							Branch/Mail Code:			
_____ (Signature)							_____ (Date)			
Project Officer Name Ahmar Siddiqui							Phone Number: 919-541-5474			
_____ (Signature)							_____ (Date)			
Other Agency Official Name							FAX Number:			
_____ (Signature)							_____ (Date)			
Contracting Official Name Tammy Adams							Branch/Mail Code:			
_____ (Signature)							_____ (Date)			
Digitally signed by TAMMY ADAMS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417 Date: 2016.09.26 11:04:25 -04'00'							Phone Number: 513-487-2030			
							FAX Number: 513-487-2545			

PERFORMANCE WORK STATEMENT

TITLE: Emission Inventory Conference for 2017

Contract No.: EP-C-13-039

Contractor: Abt

Work Assignment No.: 3-15

THE WORK ASSIGNMENT INCLUDES HOURS FOR PREPARATION OF THE WORKPLAN/COST ESTIMATE AND HOURS TO BEGIN THE WORK ASSIGNMENT. THE CONTRACTOR SHALL PROPOSE THE HOURS NECESSARY TO COMPLETE ALL TASKS. NO PREVIOUSLY PERFORMED WORK SHALL BE DUPLICATED.

WORK ASSIGNMENT COR (WACOR)

Kim D. Paylor
OAQPS/AQAD/EIAG
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ALTERNATE WACOR

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BACKGROUND:

The Emissions Inventory Conference (EIC) is a biennial event intended to 1) apprise participants of developments in emissions inventory techniques, latest science, available data and policy implicants, and 2) share experiences and insight among emissions inventory professionals from federal/state/local and international regulatory agencies, Native American governments, industry and academia.

The EIC provides a major, comprehensive and in-person forum for substantive interaction among emission inventory professionals across regulatory agencies and affected entities, industry, and academia. Emission inventory issues are of vital importance for any organization that relies on air quality modeling, because emissions data are one of the critical inputs to air quality models. Without emission inventories, air quality forecasts and assessments could not be done. Participants from other federal agencies involved with air quality and climate issues rely on this conference for exchanging the latest developments in emissions estimation and fostering discussions across international, federal, regional, state, and other programmatic boundaries. Thus, a number of agencies with a stake in emissions data and air quality modeling (such as National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), National Laboratories, and the US Forest Service) typically send participants.

Additionally, the Environmental Protection Agency (EPA) requires emissions reporting by state and local agencies through the Air Emissions Reporting Requirements Rule as described in 40 CFR Part 51; the EIC is EPA's principle customer-focused outreach effort to those agencies responsible for submitting data to EPA. The timing of the conference is also fortuitous as state agency reporting to EPA for the 2017 National Emissions Inventory is due by the end of calendar year 2018. Thus the summer 2017 conference timing will allow EPA to provide training to states air agency staff well in advance to support their efforts. It's important to note that participation by EPA Regional Office staff responsible for reviewing the state/local/tribal-provided emissions data for State Implementation Plans is likewise critical to meeting the intended purpose of this conference. Also, the EIC includes other in-person training on inventory preparation and use that is not available in

any other forum.

The Conference has an average attendance of 350 people. In the past, we have alternated the conference site between the east coast, central US and west coast locations. For 2017, the east coast location is the next rotation. The conference typically starts on Monday morning and concludes by Friday afternoon, with a Poster Session held on Tuesday evening from 6-8 pm. The 2017 Conference is planned to be held between April and June.

STATEMENT OF WORK

The WACOR is authorized to provide technical direction in accordance with the terms of the contract. The following are the tasks the Contractor shall perform:

Task No. 1

The Contractor shall prepare a Work Plan, Cost Estimate and Monthly Progress Report in accordance with the terms and conditions of this contract.

*** This is a continuation of PWS 2-15. ***

Task No. 2

The contractor shall provide the following conference planning/coordination support:

Prior to the conference, the Contractor shall re-activate and maintain the on-line registration site that was developed for the 2015 EIC. The online registration website shall be accessible according to EPA standards/guidelines and accessible through the EPA conference website. The online registration website will be activated 16 weeks prior to the conference and remain open until 2 weeks prior to the beginning of the Conference. The electronic registration form shall contain the following: Name, Affiliation, Address, Country, Phone Number, E-mail address, and choice of training courses. Registration information shall be kept in an Access database and accessible to the WACOR upon request. Upon completion of the conference the contractor shall provide a report of all conference attendees.

a. The online registration page will include:

- (1) PDF versions of the conference agenda;
- (2) Logistical Fact Sheet (which includes information on the conference location) hotel room reservations, driving directions, ground transportation options, and registration.

b. The Contractor shall prepare name tags for all conference attendees prior to and at the conference site. A form should be made available for those registering at the conference site to complete so that the information can later be entered into the database for accountability.

c. Upon request by the WACOR, the contractor shall provide ongoing liaison support with a private facility regarding poster boards; the hotel for conference planning requirements, overnight room reservations, meeting room requirements (see attached) and registration. Receipt and storage of conference materials shall be available one week prior to the conference. Return shipment service shall be available. Shipment of items shall be by freight or parcel paid by government accounts. Shipment of materials will be the responsibility of the WACOR.

d. The Contractor shall prepare to send two (2) representatives to the Conference to support the WACOR, staff the registration desk, coordinate with hotel on meeting room setup, audio visual equipment, poster board and vendor exhibit hall setup. The Contractor shall prepare for representatives to be available at the registration desk Sunday from 12:00pm – 5:00pm, Monday through Thursday 8:00am – 4:00pm and Friday 8:00am – 12:00pm. (Times are subject to change) The Contractor shall prepare for representatives to be available via phone for pre-conference review, prior to the start of the conference to review the Banquet Event Orders (BEO) with hotel staff and WACOR. The Contractor shall prepare for representatives to arrive on the morning of (date to be determined via Technical Direction) to meet with the hotel staff to provide ongoing liaison support and staff registration desk.

Task No. 3

Schedule of Deliverables

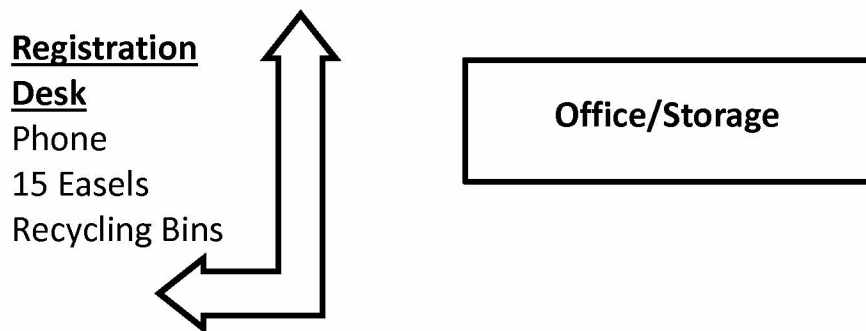
Task	Deliverable	Delivery Schedule
1	Cost Estimate	Within 20 days of receipt of PWS
2	Project Management	Ongoing through July 31, 2017
2	Registration Website Support	Ongoing through July 31, 2017
2	Conference Support	Ongoing through July 31, 2017

Attachment

The meeting space format shall be designed according:

Pre-Conference Day

Sunday - 12:00pm - 5:00pm

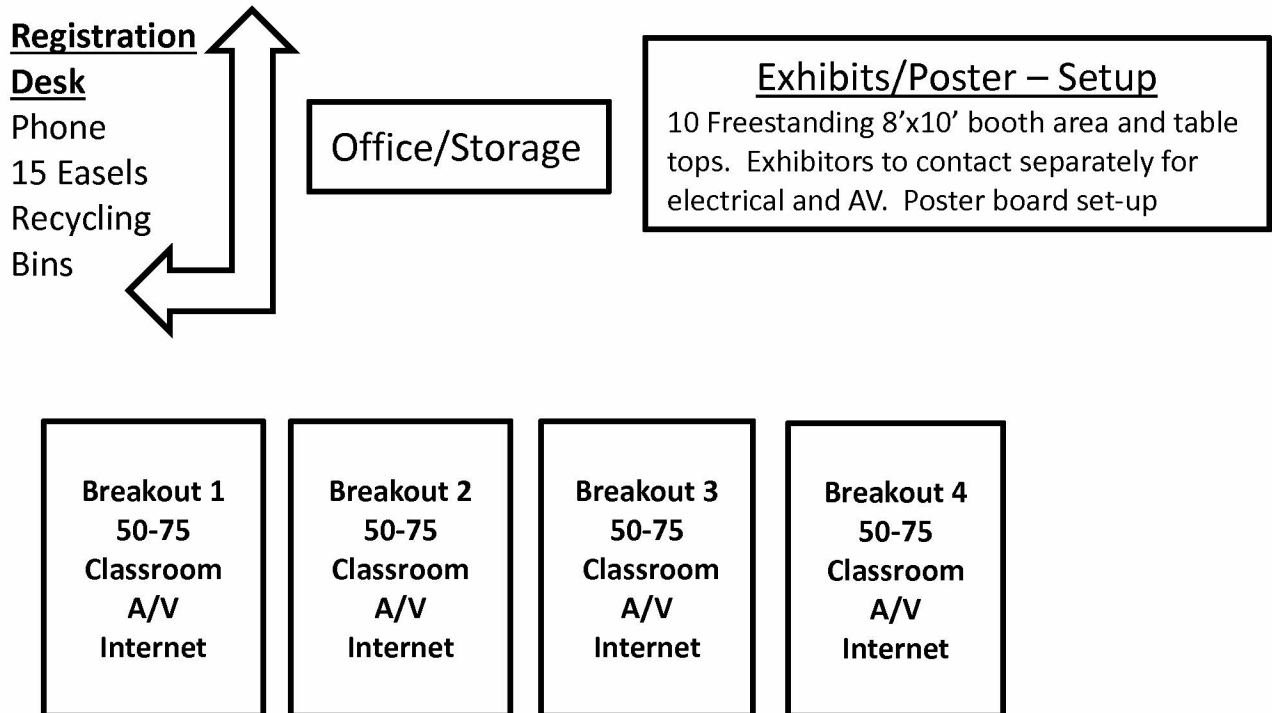


Pre-Conference

- a. *Registration table with phone for incoming calls only
Conference materials to be delivered to registration by noon
Pre-registration for attendees from 1:00pm – 5:00pm
Registration desk to remain open throughout conference*
- b. *Storage room/office*
- c. *15 tripod easels*
- d. *Provide recycling bins for paper and aluminum cans throughout conference area*

DAY 1 – Training

Monday 8:00am – 5:00pm



Day 1 (All Day)

a. 4 Breakout Rooms (Training)

Classroom for 50-75

Podium, head table w/chairs on riser for two individuals

A/V cart, LCD projector, and screen

Wireless microphone (optional)

Electrical drop, if not included in A/V

Power strips with a minimum of four outlets per table

Flip chart with paper and markers

Internet access

b. Exhibitor and Poster Set up

Approximately 10 8'x10' mix of freestanding booth areas and table tops (number may change depending on Exhibitors)

Facility to provide one table, 2 chairs, wastebasket to each booth

Exhibitors to contract separately for electric and audio/visual

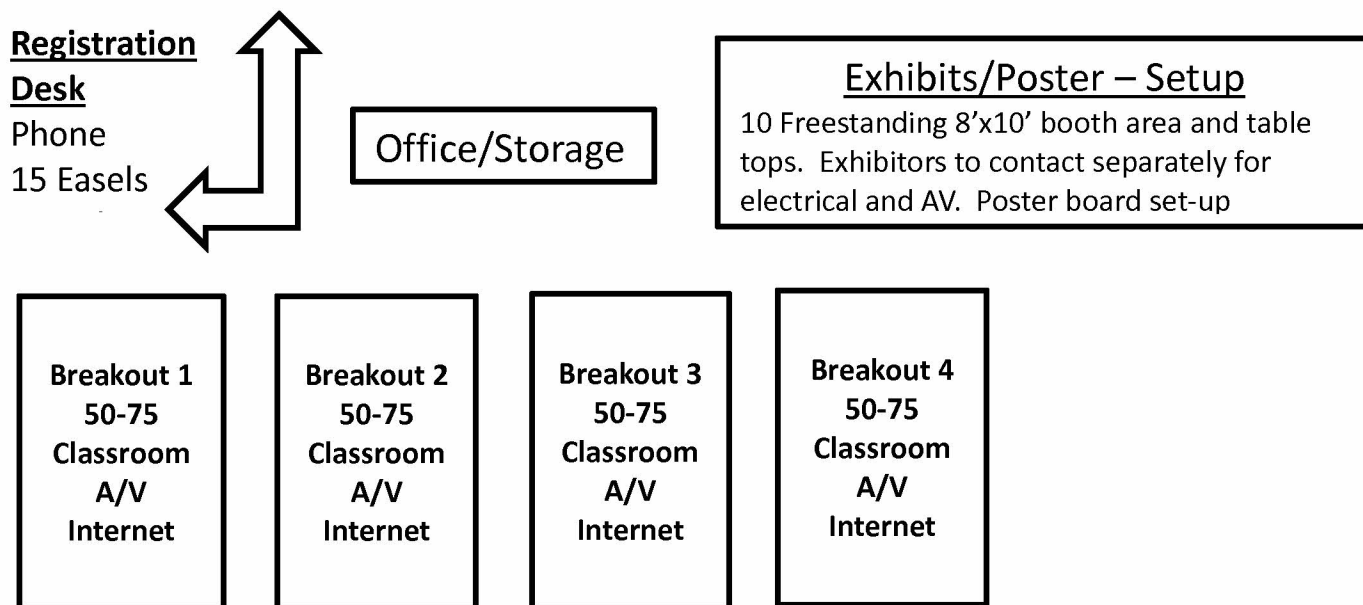
No pipe and draping

Set-up will be afternoon prior to conference start

15-25 4'x8' freestanding cloth poster boards (outside contractor)

DAY 2 – Training

Tuesday 8:00am – 12:00pm

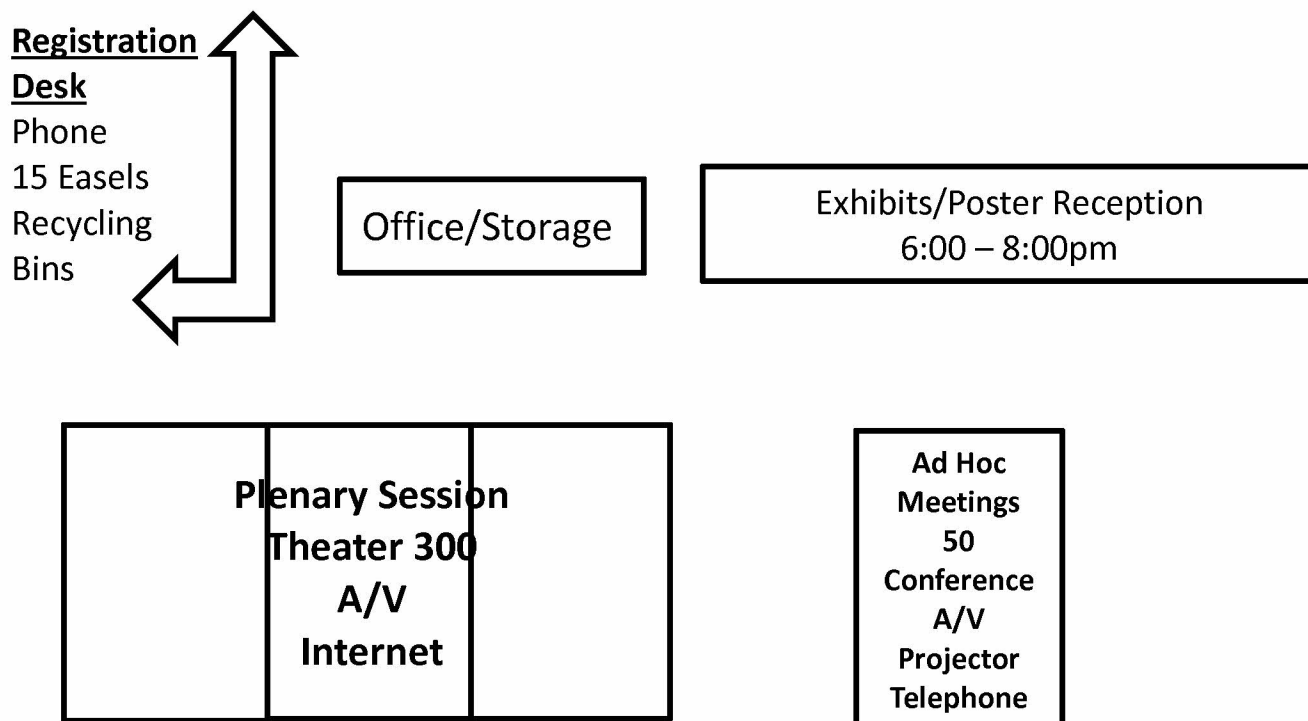


Day 2 (AM)

- a. *4 Breakout Rooms (Training)*
Classroom for 50-75
Podium, head table w/chairs on riser for two individuals
A/V cart, LCD projector, and screen
Wireless microphone (optional)
Electrical drop, if not included in A/V
Power strips with a minimum of four outlets per table
Flip chart with paper and markers
Internet access
- b. *Exhibitor and Poster Set up*
Approximately 10 8'x10' mix of freestanding booth areas and table tops (number may change depending on Exhibitors)
Facility to provide one table, 2 chairs, wastebasket to each booth
Exhibitors to contract separately for electric and audio/visual
No pipe and draping
Set-up will be afternoon prior to conference start
15-25 4'x8' freestanding cloth poster boards (outside contractor)

DAY 2 (PM) – Plenary Session

Tuesday - 1:00pm – 5:00pm

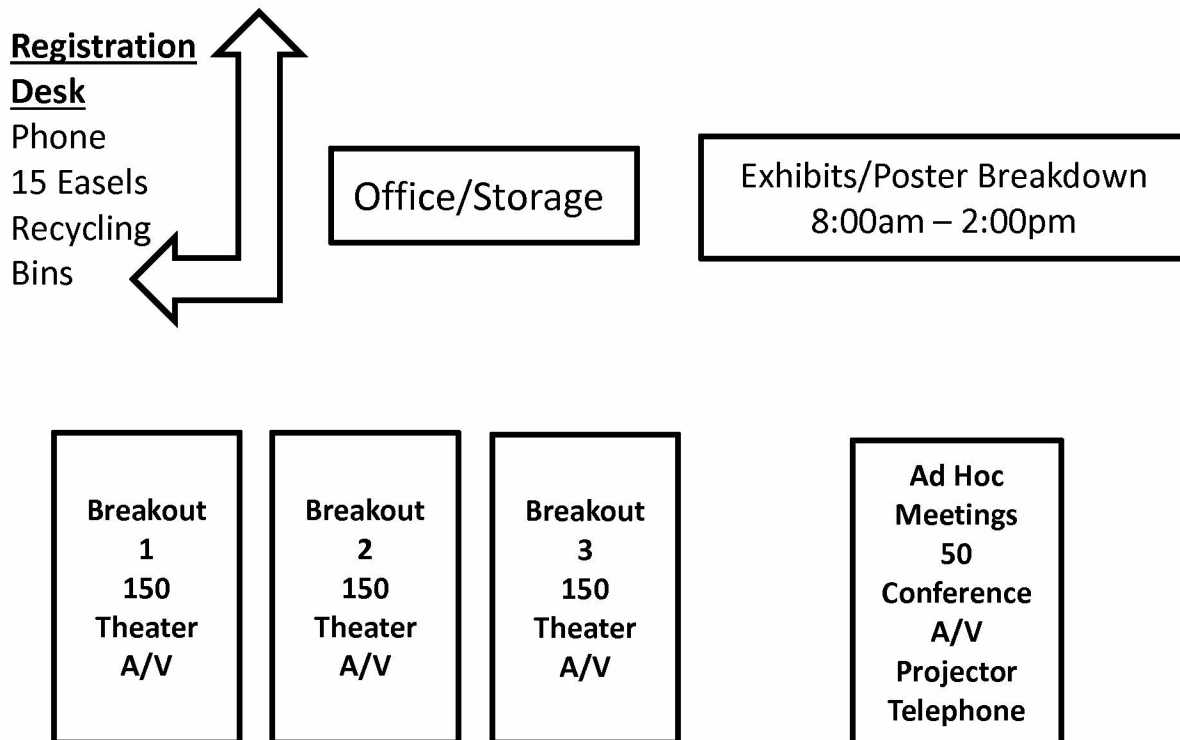


Day 2 (PM)

- a. *Plenary Session*
Theater seating for 300/350
Podium, head table w/chairs on riser for 10 individuals
A/V cart, LCD projector, 2 screens (if appropriate for room)
Wireless microphone
Sound mixer
Electrical drop, if not included as part of A/V
Internet access
- b. *Ad Hoc Meeting space available each day for conference*
Conference seating for 45/50
Projector Screen
Electrical drop
Telephone to receive incoming phone calls
Room should remain open until 7:00pm

DAY 3 (All Day) – General Session

Wednesday – 8:00am - 5:00pm

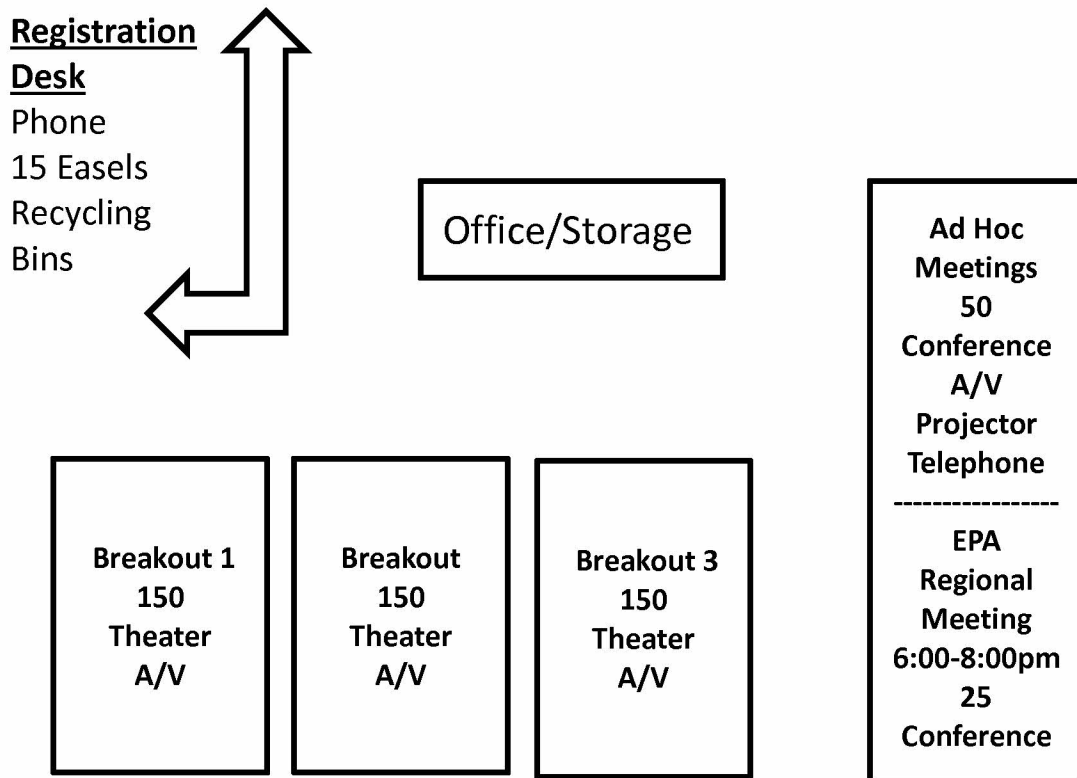


Day 3 (All Day)

- a. *3 Breakout rooms (Converted from Plenary Session)*
Theater seating for 150 each
Podium, head table w/chairs on riser for 2 individuals
A/V cart, LCD projector, screen appropriate for room size
Wireless microphone
Electrical drop, if not included as part of A/V
A/V equipment from morning Plenary Session may be re-used for breakouts
- b. *Ad Hoc Meetings (continues)*
- c. *Exhibitors/Posters session breakdown after lunch, must be completed by 2:00pm*

DAY 4 (All Day) – General Session

Thursday - 8:00am – 5:00pm

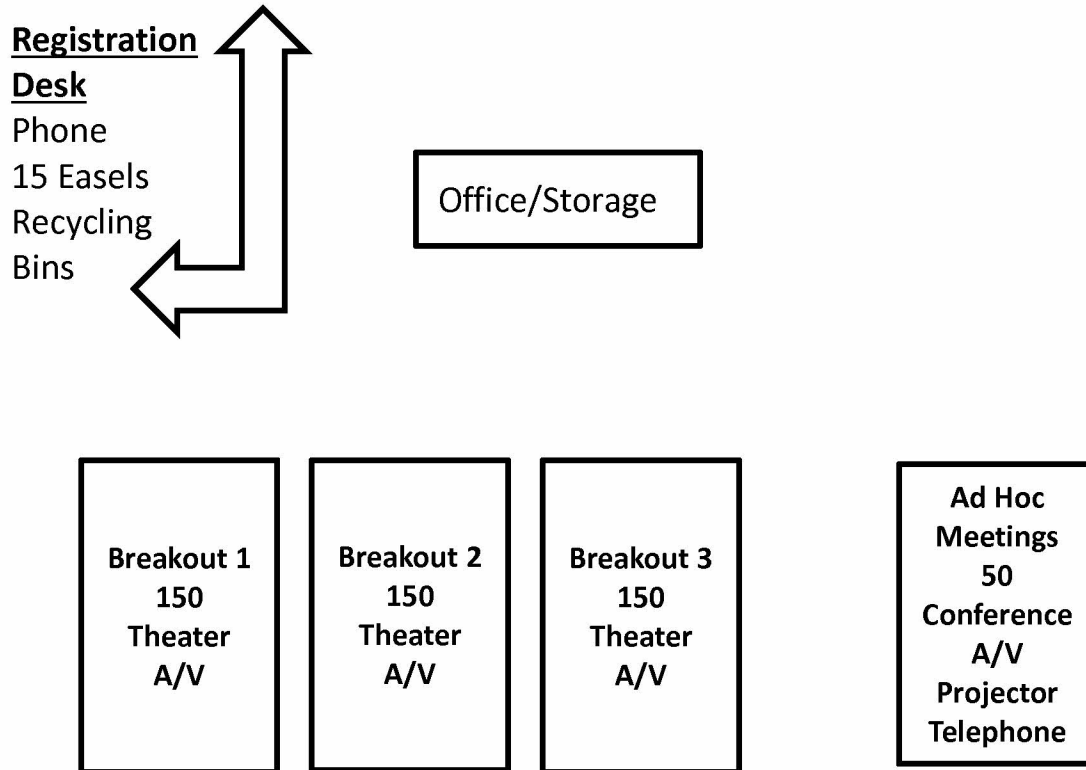


Day 4 (All Day)

- a. *3 Breakout rooms*
Theater seating for 150 each
Podium, head table w/chairs on riser for 2 individuals
A/V cart, LCD projector, screen appropriate for room size
Wireless microphone
Electrical drop, if not included as part of A/V
- b. *Ad Hocs meetings continues*
- c. *Regional Meeting - Working dinner for 25 EPA personnel 6:00pm – 8:00pm*

DAY 5 (AM) – General Session

Friday - 8:00am – 12:00pm



V Day 5 until 12:00 Noon

- a. *3 Breakout rooms*
Theater seating for 150 each
Podium, head table w/chairs on riser for 2 individuals
A/V cart, LCD projector, screen appropriate for room size
Wireless microphone
Electrical drop, if not included as part of A/V
A/V equipment from morning Plenary Session may be re-used for breakouts
- b. *Ad Hoc meetings continues*
- c. *Registration desk closes – conference concluded*

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-15								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-C-13-039	Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3	Title of Work Assignment/SF Site Name 2017 Emissions Inventory Confe								
Contractor ABT ASSOCIATES INC.		Specify Section and paragraph of Contract SOW D-2, Training and Logistical Support								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval		Period of Performance From 09/26/2016 To 07/31/2017								
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations date use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		\$0.00		LOE:		0		
09/11/2013 To 07/31/2017										
This Action:				\$34,250				326		
Total:				\$34,250				326		
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		11/04/2016		Cost/Fee		\$34,250		LOE:		326
Cumulative Approved:				Cost/Fee		\$34,250		LOE:		326
Work Assignment Manager Name Kim Paylor							Branch/Mail Code:			
_____ (Signature)							_____ (Date)			
Project Officer Name Ahmar Siddiqui							Branch/Mail Code:			
_____ (Signature)							_____ (Date)			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature)							_____ (Date)			
Contracting Official Name Tammy Adams							Branch/Mail Code:			
_____ (Signature)							_____ (Date)			
Digitally signed by TAMMY ADAMS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417 Date: 2016.12.01.14:29:48 -05'00'							Branch/Mail Code: Phone Number: 513-487-2030 FAX Number: 513-487-2545			

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-17				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-13-039			Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3			Title of Work Assignment/SF Site Name Econ for CWT study				
Contractor ABT ASSOCIATES INC.					Specify Section and paragraph of Contract SOW PWS II program Areas; ELGs and PWS a.2.3 cost/ben					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval					Period of Performance From 08/01/2016 To 07/31/2017					
Comments: Performance on this Work Assignment shall not begin until August 1, 2016.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A. (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:				LOE: 0				
09/11/2013 To 07/31/2017										
This Action:						1,350				
Total:						1,350				
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee		LOE:				
Cumulative Approved:				Cost/Fee		LOE:				
Work Assignment Manager Name Karen Milam						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;">(Signature)(Date)</div>						Phone Number: 202-566-1915				
						FAX Number:				
Project Officer Name Ahmar Siddiqui						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;">(Signature)(Date)</div>						Phone Number: 202-566-1044				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;">(Signature)(Date)</div>						Phone Number:				
						FAX Number:				
Contracting Official Name Tammy Adams						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between;">(Signature)(Date)</div>						Phone Number: 513-487-2030				
						FAX Number: 513-487-2545				

Digitally signed by TAMMY ADAMS
 DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY
 ADAMS, dnQualifier=0000018417
 Date: 2016.07.28 17:33:58 -04'00'

WORK ASSIGNMENT

I. Title: Economic Support for the Study of Centralized Waste Treatment

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 3-17

III. Estimated Period of Performance: August 1, 2016 through July 31, 2017

IV. Estimated Level of Effort: 1350 hours

V. Key EPA Personnel:

Work Assignment Contracting Officers Representative (WACOR):

Karen Milam
OST/EAD (4303T)
202/566-1915
202/566-1053 (fax)

VI. Background and Purpose:

The 1972 Clean Water Act (CWA) directs the Environmental Protection Agency (EPA) to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards). Similarly, the CWA directs EPA to review existing effluent guidelines and pretreatment standards under the 304(m) plan.

Recent advances in horizontal drilling and hydraulic fracturing have made the extraction of natural gas from coal bed, shale, and tight sands formations more technically and economically feasible than in past decades. These advanced (or unconventional) drilling techniques coupled with large gas reserves in rock formations around the country, have resulted in dramatic increases in the number of wells being drilled and hydraulically fractured in the United States (U.S.). As the number of unconventional gas wells in the U.S. increases, so too does the volume of wastewater that requires disposal. Wastewater associated with unconventional hydro-fractured gas extraction can contain high total dissolved solids (TDS), fracturing fluid additives, metals, and naturally occurring radioactive materials (NORM).

While many wastewaters are recycled and reused by producers, treatment and discharge is needed in certain cases. Where these wastewaters are being managed for treatment and discharge at Centralized Waste Treatment (CWT) facilities, there is the potential for discharge of pollutants of concern to waters of the U.S. Some CWT facilities that are accepting these wastewaters, or may potentially accept these wastewaters in the future, may not have advanced treatment in place

that is amenable to removal of the pollutants of concern. For these reasons, in the preliminary 2014 304m Plan, EPA announced that it is performing a study on the CWT industry. The study will evaluate the full spectrum of wastewater management practices at CWT facilities accepting oil and gas extraction wastewaters, including treatment and discharge, recycling, zero discharge, barrel-in/barrel-out, etc.

The purpose of this work assignment (WA) is to provide contractor tasks to support EPA's completion of the CWT study.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved programmatic quality assurance project plan (PQAPP) with an additional supplemental quality assurance project plan (SQAPP) for primary data collected under this WA. The programmatic and supplemental QA project plans shall describe the procedures for assuring the quality of the primary and secondary economic data used for this work assignment.

In carrying out the tasks specified in this work assignment, the contractor may be called upon to build upon and continue work performed under WA 1-06 and 1-17 under this Contract EP-C-13-039, and a past contract EP-C-07-023. The work performed under this work assignment will not duplicate work conducted under the previous work assignments.

Under the previous work assignment(s), Abt Associates performed the following analyses:

- DRAFT – CWT Survey Development – Discussion of Analysis Requirements and Information Needs
- Review of Business and Technical Operation Models for Management of Wastewater From Oil and Gas Extraction
- Conducting a CWA 308 Survey for CWT Facilities
- Profile of the Centralized Waste Treatment Sector memo; Sept. 14th, 2011, under Contract EP-C-07-023
- WA 2-06 T5 CWT Profile_2016 04 29

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and other procedures as described in the contract clauses (Clauses H.15-H19 and H.21). The contractor must maintain CBI security clearance to use CBI information. The contractor shall not disclose any CBI to anyone other than EPA without prior written approval from the EPA WACOR. The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

Budget Reporting: The contractor must report to the EPA WACOR when 75 percent of the approved Work plan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor shall refer all interpretations of policy to the EPA WACOR.

Limitation of Contractor Activities: The contractor shall submit drafts of all deliverables to the EPA WACOR for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor shall incorporate all EPA WACOR comments into all final deliverables, unless otherwise agreed upon by the EPA WACOR. The contractor shall adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA Contract Level Contracting Officer Representative (CL-COR), and EPA WACOR.

Quick Response: Under this Performance Work Statement the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: The contractor shall be required to travel under this work assignment. The contractor may be asked to participate with EPA in on site data collection, in meetings with trade associations, and to meet with EPA to discuss methodology and other important issues associated with the project. A request for approval for any travel directly chargeable to this work assignment must be submitted and approved by the CL-COR before travel begins.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters are to be provided in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos are to be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WACOR and will be formatted to be in compliance with the Section 508 Amendment to the Rehabilitation Act of 1973.

VIII. Performance Work Statement

The EPA WACOR will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WACOR's comments.

Task 1 - Prepare Work Plan

The contractor shall prepare a work plan within 15 calendar days of receipt of the work assignment signed by the Contracting Officer. The work plan shall outline, describe and include the technical approach, resources, quality assurance to be performed, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WACOR, the CL-COR and the CO will review the work plan. However, only the CO can approve/disapprove, suggest revisions, or change the work plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised work plan incorporating the CO's comments, if required.

A weekly update call with the EPA WACOR will be required for this work assignment to discuss progress on deliverables, costs, and other potential issues.

Deliverables and schedule under Task 1

Deliverable	Projected Schedule Date
Work Plan	Within 15 calendar days of receipt of work assignment.

Task 2 Quality Assurance

2.1 Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 1-1** below.

Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction and data manipulation

Table 1-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data.

Item	Examples
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.2 QA Project Plan Requirements

The Contractor has previously prepared a contract-wide Programmatic QAPP (PQAPP) for Contract EP-C-13-039. This PQAPP describes, in a single document, information that is not site or time-specific, but applies throughout the program (i.e., the duration of the contract). When tasked with preparing the PQAPP, the Contractor was informed that the PQAPP may need to be supplemented with project-specific details to support individual work assignments that involve the collection, generation, evaluation, analysis, or use of environmental data.

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing environmental data (also known as “secondary” use of data) and collecting primary data using EPA CWA § 308 Authority. EPA has determined that the Contractor is operating under the existing PQAPP and that the PQAPP addresses QA requirements for this work assignment for the existing environmental data. However, for the primary data, specifically for 308 authority letters, the contractor must prepare a supplemental QAPP (SQAPP) that describes specific QA strategies that will be used when performing environmental data operations to support the objectives of this WA. In support of this work assignment, the Contractor shall ensure that the work plan Table 1-2 and/or the SQAPP provides enough detail to clearly describe:

- Specific objectives of the project(s) supported by this work assignment, including typical questions that must be answered when using existing sources of data to perform writing an industry profile in support of the CWT study (table 1-2); and collecting primary financial and engineering information for data-gathering letters – citing CWA § 308 authority (SQAPP)
- The type of data to be gathered or used under this work assignment to support the project objectives—including secondary data from search engines, federal databases, EPA data bases; and primary data from letters from industry—as a well as a rationale for when those sources are appropriate and what data available in each will support the project
- The quality objectives needed to ensure the data will support the project objectives, and

- The Quality Assurance/Quality Control (QA/QC) activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

Table 1-2 at the end of this WA demonstrates how the PQAPP addresses QA requirements for this work assignment and notes where additional detail for Table 1-2 is needed from the contractor. The contractor shall fill in staff roles to the Table 1-2 checklist and make any additional detailed notes in the ‘explanatory comments’ column as requested by the WACOR (a column titled “detail needed in table” highlights those rows that should be included in the response work plan, and since there will be a SQAPP for this WA, the completed Table 1-2 shall be attached to the SQAPP as well). The contractor shall then include the completed Table 1-2 as a separate Appendix A to the work plan upon submittal to EPA. This Appendix A should be a stand-alone document if QA documentation is requested, therefore the Table 1-2 titles must include the title of the WA, WA number, contract number, and what projects each covers. The WACOR has provided this information in the title, which the contractor may use to fulfill this requirement.

For the SQAPP, the **Table 1-3** at the end of this WA demonstrates how the PQAPP addresses QA requirements for this work assignment, noting how the contractor may reference the PQAPP, and includes additional direction for the contractor to use in drafting the SQAPP. The additional detail in Table 1-3 should be used by the contractor to include an appropriate amount of information in the SQAPP documenting QA procedures needed to complete the primary data work under this WA, while ensuring the contractor does not need to repeat most information and procedures already included in the PQAPP. The contractor shall prepare and submit an SQAPP that addresses these areas and submit the SQAPP to EPA for approval within 30 days after submittal of the work plan.

2.3 Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting the project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Industry Profile) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies implemented for the project sufficiently support the intended use of the data. Upon receipt, the EPA WACOR will review each applicable report and certify whether the Contractor has adhered to the QA requirements documented in the Contractor's PQAPP and SQAPP.

The Contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the Contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.4 SQAPP Schedule

Within 30 days after submittal of the work plan, the Contractor shall prepare and submit an SQAPP that addresses the specific areas identified in Table 1-3.

- All activities performed under this work assignment prior to submission and approval of the SQAPP must comply with the QA/QC strategies documented in the Contractor's approved PQAPP.
- Any and all deviations from the PQAPP must be documented in the SQAPP that is submitted to EPA for approval.
- EPA will review the submitted SQAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.
- The Contractor shall revise the submitted SQAPP within 10 days of receipt, unless otherwise instructed by the EPA WACOR.
- If the SQAPP is not fully approved (signed) within 60 days after submission of the Contractor's work plan, the Contractor must stop performing any activities that involve the collection, generation, evaluation, analysis or use of environmental data, unless explicit written permission to continue doing so is provided by the EPA WACOR.

2.5 Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the

requirements of the Data Quality Act for influential information. EPA’s *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as “EPA’s Information Quality Guidelines,” describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA’s Information Quality Guidelines indicate that “especially rigorous robustness checks” should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (Standard Operating Procedures, checklists, and guidelines) that the Contractor designates as confidential so that the EPA WACOR can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WACOR, the contractors may be requested to prepare pre-dissemination review checklist as described in Appendix B of the Office of Water Quality Management Plan, April, 2015. If this is required, the EPA WACOR shall notify the Contractor through written technical direction.

2.6 Task 2 QA Deliverables

Deliverable	Projected Schedule Date
Monthly reports of QA work performed (may be included in the Contractor’s monthly progress report)	Monthly throughout the WA period of performance
Supplemental QAPP for primary data	Within 30 days after submittal of the Work Plan
Revised SQAPP reflecting EPA comments, if needed	Within 15 days of receipt of EPA comments on initial submission

Task 3 - Adherence to the Standardized Naming Convention and Version Control

The contractor shall adhere to the EPA WACOR approved standardized naming convention and version control (SNCVC) plan that was developed under the Construction and Development WA 0-01 of the contract EP-C-07-023 (WA0-01_T1_SNCVC_08.31.07_V1.pdf). The contractor shall use this standardized convention for all deliverables associated with this work assignment.

The EPA WACOR may request the contractor through written technical direction to amend the SNCVC memorandum at any point under this WA. The EPA WACOR will review the revised memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare the edited SNCVC memorandum incorporating the EPA WACOR’s comments, if required. After receiving notification of approval the contractor shall use the revised SNCVC.

Deliverables and schedule under Task 3

Deliverable	Projected Schedule Date
Revised SNCVC memorandum	If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WACOR, at technical direction of EPA WACOR.

Task 4 – Technical Support for CWT Study

Task 4.1 – Data-Gathering Task

The contractor shall provide technical support to EPA for enhancing the preliminary data summary (or study) of the CWT industry for a financial understanding of the present-day and future-outlook of the CWT industry.

To obtain the necessary data for developing the study, EPA anticipates using Clean Water Act § 308 authority to collect information and data, such as detailed facility information and obtaining financial information from facilities (cost of capital for the firm, number of employees, financing structure, information on the rates of local hiring and subcontractors use, etc.), from nine or fewer centralized waste treatment companies. EPA will also be collecting information related to engineering aspects of the facilities as well as environmental impacts associated with potential discharges from the facilities. The cost and performance (engineering) information may be used as inputs for future analyses. Because these data-gathering letters will consist mainly of financial questions, the contractor shall be the coordinator of all three data-gathering categories: financial, engineering, and environmental impacts. The contractor shall collect all engineering and environmental impact questions from the EPA WACOR and fit them into the logical flow and format of the letter. The contractor shall consult with EPA and the engineering contractor regarding use of data and information collected for future analyses, and provide support activities as requested. For planning purposes, the contractor can assume seven out of the potential nine letters will have been written in the prior Option Period 2, so the contractor shall write up to one letter to CWT companies.

Facility information collected should also attempt to generally characterize the CWT's relationship to oil and gas operators in terms of the percent of total revenue, their pricing power (ability to pass treatment cost on to oil and gas firms), and other systematic relationships with oil and gas operators. For this reason, EPA *may* decide to send a data-gathering letter to nine or fewer oil and gas operators. The WACOR will notify the contractor for this effort *if* EPA decides to send letters to these companies in addition to the nine or fewer letters sent to CWT companies. The contractor shall assist EPA with the technical aspects of these activities including, but not limited to: developing lists of questions, presenting question formats for the WACOR to consider, answering technical questions for respondents while filling out the questionnaire, compiling information received, and maintaining the information received by the questionnaire and site visits. For quality assurance purposes, data collected is expected to be a primary source of financial information for a facility and company. For planning purposes, the contractor can assume it will write up to nine letters to oil and gas operators.

Other potential data sources that the contractor may utilize in developing the study include technical and scientific literature, commercial data sources, vendors, internet searches, and state regulatory agencies. EPA shall provide data from Hoover/Dun & Bradstreet for review and summary by the contractor.

The contractor shall manage the primary information collected via any § 308 letters, according to PQAPP Section 4.1.3 and 4.1.4.

Task 4.2 – Survey and Information Collection Request (ICR)

If EPA moves forward with a regulation, the contractor shall assist in EPA in preparing to conduct an ICR. The contractor shall build on the memo titled, “Conducting a CWT 308 Survey for CWT facilities” to present the EPA WACOR with options for the format of a survey instrument and method for administering the survey. The contractor shall work with the EPA WACOR to understand all possible formats including their strengths and weaknesses. Once the EPA WACOR decides which survey format and method to administer the survey, the EPA WACOR will provide an amendment to this WA to begin the work for the survey. This additional work will require an update to the SQAPP, which will be described in the amendment, if sent to the contractor.

Task 4.3 - Site Visits

The contractor shall provide support to EPA in conducting site visits at CWT facilities that accept oil and gas extraction wastewaters. Support may include attending conference calls with engineering contractor and facility personnel to obtain facility information, provide financial and economic memos after site-visits, and conducting follow-up activities. If the EPA WACOR attends the site visit, the contractor shall maintain the information collected on the site-visit by the EPA WACOR once it is provided to the contractor. The contractor can assume one site visit financial report will be finalized under this task.

Task 4.4 – CWT industry Profile

The goal of the study is to evaluate current trends in the CWT industry with respect to oil and gas extraction wastewater management and to estimate, to the extent feasible, future industry trends at CWT facilities resulting from current and predicted oil and gas extraction wastewater management practices (including treatment residuals management). For the purposes of this task, the contractor shall revise, update, and expand upon the Centralized Waste Treatment (CWT) industry characterization work initially conducted under Abt Contract EP-C-07-023. This product shall be formatted as a standalone memorandum. The profile should include a discussion of financial health of the industry, addressing issues such as consolidation, small business characteristics (based on Small Business Administration thresholds for NAICS codes), and regulations that may affect the industries profit margins. To the extent possible, with public information and material developed by EPA engineers, the industry profile should characterize those CWTs that are currently receiving oil and gas waste streams. The profile should also look at pricing power within the CWT industry. The profile should also include any information collected from the § 308 letters that may help give insight on financial and economic patterns in the CWT industry. The profile shall conclude with an industry outlook.

The contractor will need a 1-year access to the Risk Management Association data to update Section 8 of the CWT industry profile.

Task 4.5 – Develop a Draft Economic Assessment Methodology Outline for CWT industries

Given the need to discuss reasoning for questions asked in the survey for potential future analyses, the contractor shall develop a draft, standalone outline of the economic assessment methodology outlining the potential components of an economic impact analysis of the CWT industry, listing potential financial tests and overall model considerations for the EPA WACOR early in the option period (and QA considerations). The EPA WACOR will use this as a generic blueprint to discuss potential uses in a future analysis. Given the best available information at the given time, the methodology outline will be used by the EPA WACOR as a blueprint for discussing the importance of the questionnaire and reasoning for ICR approval. For this reason, a ‘final draft outline’ is the desired end-product in this option period, and an actual ‘final’ document will be produced at a future stage of a potential rule-making process.

The methodology outline will follow the work done on task 4.1 Data-gathering task and 4.3 site visits (*see above*), the CWT survey development – Discussion of Analysis Requirements and Information Needs memo delivered under WA 1-17, contract EP-C-13-039, and ongoing discussions with the EPA WACOR for appropriate scoping. This memo outline shall include potential needed components for modelling different business structures within the scope of the rulemaking, the calculations to be considered for use in determining the revenue impacts and closures at the facility and firm levels, and potential data sources that could be used to model gas and oil price impacts. The memorandum should also explore potential ways CWTs use cost pass-through to consumers (e.g., Unconventional Oil and Gas (UOG) operators) and how that might affect both sectors.

The memo can also include, if possible depending on information from the environmental assessment team, a section that discusses potential monetization approaches for benefits.

Task 4.6 - Technical Support for the CWT study

Also based on technical direction given by the EPA WACOR, the contractor shall provide technical support related to economic issues associated with UOG activities. Such support may include responding to management questions about the economics of the CWT industry and preparing briefing and meeting materials (which may include but are not limited to short briefing documents and PowerPoint presentations). For planning purposes, the contractor can assume if support is requested within this WA timeframe it would consist of up to 5 quick (1-2 weeks) turn-around deliverables, each taking 4-8 hours, and 6 slides for a PowerPoint presentation. The contractors may also be requested to participate in and/or conduct briefings, assisting Agency economists in their review of analyses conducted by EPA and its contractors, providing technical review of materials prepared for the rulemaking, and assist in the development of the rulemaking record.

The contractor may also attend or participate in meetings for this task. For planning purposes, the contractor can assume travel for one conference or meeting, and to participate in up to three calls.

Deliverables and schedule under Task 4 Technical Support for CWT Study (Note: many of the dates provided are for planning purposes only and may change. Given the uncertainty of

the regulatory process, EPA is not able to confirm these dates.)

Deliverable	Projected Schedule Date
5.1 Data Gathering letters (§ 308 authority)	Within 30 days of receipt of direction from EPA WACOR. For planning purposes, the 1 CWT company letter will be due within the first 90 days of this Option Year. The potential for an additional 9 letters to UOG companies will be due within 30 days of receipt of direction from EPA WACOR, EPA estimates this would occur within the first 6 months of this Option Year.
5.1 § 308 letter summaries	Within two weeks of receipt of technical direction from EPA WACOR. For planning purposes the contractor should expect this deliverable once a 308 letter answer is received from a recipient and shared with the contractor. These are expected to arrive over the months of August - September
5.3 Draft Financial Memo (for site visit) on facility/firm	14 Days after receipt of notes from EPA WACOR after completion of site visit
5.3 Final Financial Memo (for site visit) on facility/firm	14 Days after receipt of comments from EPA
5.4 Updated Draft CWT Industry Profile	Delivery on 09/30/16, or within 30 days of written technical direction received from the EPA WACOR or as otherwise specified in technical direction.
5.4 Final CWT Industry profile	Within 20 days of receipt of final comments from EPA WACOR on draft Industry profile
5.5 Draft economic assessment methodology outline	Delivery on 02/01/17, or within 60 days of written technical direction received from the EPA WACOR or as otherwise specified in technical direction.
5.5 Final draft economic assessment methodology outline	If additional edits are required, due within 2 weeks of receipt of comments from the EPA WACOR, at technical direction of EPA WACOR.
5.6 Draft Deliverables	Within 7 calendar days of written technical direction received from the EPA WACOR or as otherwise specified.
5.6 Final Draft Deliverables	If additional edits are required, the draft deliverable must be updated within 7 calendar days of written technical direction received from the EPA WACOR.

Table 1-2. QAPP Elements Applicable to WA 3-17 Economic Assessments for Rulemakings and Studies related to the Oil and Gas Industry, EP-C-13-039, Centralized Waste Treatment Study that Relies on Existing Data (task 4)

QAPP Element	Sufficiently Addressed in PQAPP	Additional Detail Needed in Checklist	Not Applicable to Project	Explanatory Comments
A1. Title & Approval Sheet				
Project title	X			Economic Support for the Study of Centralized Waste Treatment
Organization's name	X			Abt Associates
Effective date and/or version identifier	X			Section ii of PQAPP
Dated signature of Organization's project manager	X			Section ii of PQAPP
Dated signature of Organization's QA manager	X			Section ii of PQAPP
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	X			Section ii of PQAPP
Revision History	X			Section ii of PQAPP;
A2. Table of Contents				
Includes sections, figures, tables, references, and appendices	X			Section ii of PQAPP
Document control information indicated (when required by the EPA Project Manager and QA Manager)	X			Section ii of PQAPP
A3. Distribution List				
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	X			Section 2.1 of PQAPP; pages 5-7
A4. Project/Task Organization				
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	X	X		Reference PQAPP section 2.1 on page 5. Referencing table 2.1 and descriptions on page 7 of PQAPP. Specific people identified for the following roles: Abt PQA: Abt WAM: OST WACOR: Karen Milam Addition to Figure 2-1, under OST Division, Associate Director of Economics: Julie Hewitt, acknowledge that Jan Goodwin is the managing branch chief for the CWT study and will therefore review for QA, as well.
Organization chart shows lines of authority & reporting responsibilities	X			Reference PQAPP section 2.1 for overall picture
Project QA manager position indicates independence from unit collecting/using data	X			Reference PQAPP section 2.1 on page 5.

QAPP Element	Sufficiently Addressed in PQAPP	Additional Detail Needed in Checklist	Not Applicable to Project	Explanatory Comments
A5. Problem Definition/Background				
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested		X		Section 2.2 – goal of program is to conduct economic analyses for ELGs See table 2-2: cost-benefit and economic impact analysis, industry profiles, collection /preparation of reports, review and analysis of public comments, legislative and litigation support, database development and management. The purpose of this work assignment is to provide contractor tasks to support EPA's completion of the CWT study.
Identifies project objectives or goals	X	X		Reference PQAPP Table 2.2; specifically rows with the following analyses titles: Industry Profiles, database development and management, outreach, training and logistical support.
Historical & background information				
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	X			Section 2.2 – goal of program is to conduct economic analyses for ELGs. See table 2-2 and above reference for specific analyses
A6. Project/Task Description				
List measurements to be made/data to obtain	X			See bulleted list in section 2.3
Notes special personnel or equipment requirements			X	
Provides work schedule			X	No set dates, not necessary for QAPP.
A7. Overall Quality Objectives & Criteria				
States overall quality objectives and limits needed to support the project goals and objectives cited in A5	X	X		Section 2.4.2 of PQAPP follow specifically for industry profile.
A8. Special Training Requirements/ Certifications				
Identifies specialized skills, training or certification requirements	X			section 2.5 of PQAPP, sufficient
Discusses how this training will be provided/the necessary skills will be assured and documented	X			section 2.5 of PQAPP, sufficient
A9. Project-level Documents & Records				
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff	X	X		Section 2 of PQAPP, pages 5-7; see Table 1-2, section A4 for added specific names that correspond to Table 2.1 of the PQAPP.
Identifies final work products that will result from the project		X		Section 2.6 of PQAPP: Scoping memorandum, Summary table, briefing slides, draft chapters for final report (i.e., the industry profile, including the summary of the 308 letters, for the study) are all potential deliverables for the CWT study and will follow the QA review outlined in Table 2-4 of Section 2.6 of the PQAPP.

QAPP Element	Sufficiently Addressed in PQAPP	Additional Detail Needed in Checklist	Not Applicable to Project	Explanatory Comments
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes	X	X		See Appendix A of PQAPP; must be delivered to the OST WACOR Karen Milam and Abt Assoc identified PQAPP: _____
B1. Data Needs				
Detailed list/description of the specific data elements needed to support project goals	X	X		See Table 3-1 of PQAPP; specifically rows under Company financial data: 5.1, 5.3, 5.4; & Industry Financial Data: 6.1; & Other Industry data: 7.1, 7.3, 7.4,
Description of the scope of the data elements that you need (e.g., data supporting specific treatment options vs. the full range of options, data supporting the entire country vs. a specific geographic region)		X		PQAPP Section 3.1.1: Data elements for this project span the entire country.
If project includes development or update of a project database, QAPP identifies and defines each database field			X	
B2. Potential Data Sources				
Identifies and describes potential sources of the existing data needed (e.g., photographs, topographical maps, facility or state files, census data, meteorological data, publications, etc.) and the rationale for their use	X			Section 3.1.2 of PQAPP
If literature searches are used, describes the search engines that will be used and key search terms	X			Section 3.1.2 of PQAPP
If databases or models will be used, describe the database (or model) in terms of who developed it and operates it and the type of data it contains			X	None.
For other potential sources, describe the potential sources & rationale for considering or using each one			X	
B3. Criteria for Selecting Data Sources				
Identifies each criterion that will be used to determine if the candidate data sources listed in B2 will meet your needs, and how each criterion is defined. (Criteria vary by project; examples include reliability, age, applicability, quantity, format, and others)	X	X		PQAPP 3.1.3 Criteria for Selecting Data Sources; data sets (page 46) These will be discussed with the EPA WACOR, as mentioned in the PQAPP, and recorded via the monthly QA reports, eventually being added to the SQAPP if there is enough deviation from the PQAPP (td by EPA WACOR). Given that there is only an industry profile final deliverable anticipated at this time for this WA, the contractor will include a description of the QA considerations for sources in the industry profile upon delivery.

QAPP Element	Sufficiently Addressed in PQAPP	Additional Detail Needed in Checklist	Not Applicable to Project	Explanatory Comments
Explains rating system used to evaluate source against each criterion	X	X		PQAPP section 3.1.4, page 48. The EPA will review the industry profile and its sources/references in order to flag any major concerns. Generally, follow the PQAPP for most recent, most representative. Given the lack of consistent information for this industry, it is noted that a need for news articles may need to be a source of information for the final documents. These are acknowledged by EPA and should be acknowledged in the QA summary at the end of the industry profile document.
B4. Data Value Selection Approach				
For data sources that meet the criteria identified in B3: Describes the criteria and procedures that will be used to determine which value(s) identified in the acceptable sources are most appropriate for use in the project	X	X		Section 3.1.4; and if deviate from PQAPP, communication with the EPA WACOR in bi-weekly check-ins and general review by the EPA WACOR upon delivery of final document.
For data that do not meet these pre-established criteria but are the only data available, explains how the decision to use such data will be made and documented		X		Communication with the EPA WACOR in bi-weekly check-ins and general review by the EPA WACOR upon delivery of final documentation; if it is the only data we have and provides needed context for the industry profile, it will be added.
B5. Resolving Data Gaps				
Describes the process for identifying and addressing data gaps that still exist after candidate data sources have been evaluated and appropriate data values have been identified	X	X		Section 3.1.5 of PQAPP, Page 51 Resolving Data Gaps.
Describes the process that will be used to address any new data needs revealed during the data gathering process (i.e., additional data elements not previously considered)		X		Abt will present data to EPA WACOR, EPA WACOR will approve new data needs in a written email. Then Abt will record in the monthly QA updates if changes were made.
B6. Data Gathering Documentation and Records				
Describes how results of the source selection and the data value selection will be documented, including any sources or values that were rejected and the rationale for not using them	X			PQAPP section 3.1.6 Data Gathering Document and Records, page 51, last sentence Also, see section 4.1.1
For data that are deemed acceptable and that will be used, explains how each data element will be associated to its original source citation (i.e., bibliographic information, telephone contact reports, email messages, etc.)	X			PQAPP section 3.1.6 Data Gathering Document and Records, page 50 bullets

QAPP Element	Sufficiently Addressed in PQAPP	Additional Detail Needed in Checklist	Not Applicable to Project	Explanatory Comments
C1. Standardization of Data Elements				
Describes the process to ensure that units and other key measures are captured and standardized (or otherwise made comparable) in the database	X			PQAPP 3.2.1
If the project requires that all fields be standardized to a single set of units (e.g., US dollars for economic data, µg/L for chemical data), identifies the standard units that will be required for each data element	X	X		PQAPP 3.2.1; specifically NAICS codes, U.S. dollars, same years (assume financial data will be summarized across same time span from potentially different sources), and state or counties codes.
Identifies the procedures for converting data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly	X			PQAPP 3.2.1
If standardization of data elements is not needed, explains the process for ensuring that data presented in varying units are comparable enough for use in the project and that project staff members and other data users will be able to readily identify differences in units	X			PQAPP 3.2.1
C2. Data Entry				
Explains the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be used to ensure that the database accurately and completely captures the data as presented in the original source	X			PQAPP section 3.2.2
C3. Merging or Uploading Electronic Data from Existing Sources				
If data are available electronically and will be uploaded or merged into the project database: describes the procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset(s)	X			PQAPP section 3.2.3
C4. Data Review				
Describes the process for ensuring that the data have been recorded, transmitted, and processed correctly	X			PQAPP section 3.2.4, appendix F
C5. Data Storage and Manipulation				
Describes how the existing data will be stored	X			PQAPP section 3.2.5
Describes who will be responsible for access to and maintenance of the stored data	X			PQAPP section 3.2.5

QAPP Element	Sufficiently Addressed in PQAPP	Additional Detail Needed in Checklist	Not Applicable to Project	Explanatory Comments
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made	X			PQAPP section 3.2.5
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation	X			PQAPP section 3.2.5
D1. Data Quality Verification and Data Quality Reporting				
Describes the process for verifying that the final set of data meets the overall criteria originally specified for the project	X			PQAPP Section 3.3.1
Describes how these determinations will be documented and reported	X			PQAPP Section 3.3.1
For data that don't meet the pre-established specifications, explains the process for determining if they are usable and how such decisions will be documented	X			PQAPP Section 3.3.1
D2. Use/Analysis of the Existing Data				
Provides details regarding the exact means in which the data will be used to meet project objectives	X	X		To show industry financial trends to better understand the CWT's financial baseline.
Includes an explanation or list of the information to be calculated and the data elements that will be used to make those calculations	X	X		No calculations will be made systematically from existing data at this point in the project.
Includes applicable calculations and equations (if known) or explanations of how they will be developed	X	X		No calculations will be made systematically from existing data at this point in the project.
Includes plans for excluding outliers	X	X		No calculations will be made systematically from existing data at this point in the project.
D3. Methodology Documentation and Conceptual Review				
If exact methodologies for analyzing the data will need to be developed or modified during the course of data analysis, explains the process by which such methodologies will be documented, who is responsible for reviewing/approving their use, and how the methodologies will be checked to ensure they yield the desired products	X			PQAPP 3.2.3; PQA Advisor is responsible, see above for listed reviewer.
D4. Technical Review of the Data Analysis				
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support project objectives	X	X		PQAPP 3.3.4; appendix A; PQA Advisor is responsible, see above for listed reviewer.

QAPP Element	Sufficiently Addressed in PQAPP	Additional Detail Needed in Checklist	Not Applicable to Project	Explanatory Comments
Explains procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting and implementing such changes	X	X		PQAPP 3.3.4; appendix A; PQA Advisor is responsible, see above for listed reviewer.
D5. Final Verification of Data Analysis and Reconciliation with User Requirements				
Describes the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, and that the work product addresses the overall project goals and objectives	X	X		PQAPP 3.3.5; Appendix A, PQA Advisor and Abt WACOR , see above for listed PQA Advisor and WACOR.
Describes how the results of this assessment will be documented	X			PQAPP 3.3.5
Describes how any limitations of the data or data analyses that were used to prepare the final work product will be documented and communicated	X			PQAPP 3.3.5 Appendix F and Appendix A

Table 1-3. QAPP Elements Applicable to WA 3-17 Economic Assessments for Rulemakings and Studies related to the Oil and Gas Industry, EP-C-13-039, Centralized Waste Treatment Project that Require Additional Explanation in a Supplemental QAPP for Projects that Rely on Primary Data (Task 4)


QAPP Element	Sufficiently Addressed in PQAPP (or N/A to WA)	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
A1. Title & Approval Sheet			
Project title	X	X	WA 3-17 Economic Support for the Study of Centralized Waste Treatment
Organization's name	X		Abt Associates
Effective date and/or version identifier	X	X	Section ii of PQAPP; add specific names related to the project to the SQAPP for signature
Dated signature of Organization's project manager	X	X	Section ii of PQAPP; add specific names related to the project to the SQAPP for signature
Dated signature of Organization's QA manager	X	X	Section ii of PQAPP; add specific names related to the project to the SQAPP for signature
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	X	X	Section ii of PQAPP; add specific names related to the project to the SQAPP for signature
Revision History	X	X	Section ii of PQAPP; add a page to the SQAPP
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices	X	X	Section ii of PQAPP
Document control information indicated (when required by the EPA Project Manager and QA Manager)	X	X	Section ii of PQAPP
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	X	X	Section 2.1 of PQAPP; pages 5-7

QAPP Element	Sufficiently Addressed in PQAPP (or N/A to WA)	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	X	X	Reference PQAPP section 2.1 on page 5. Referencing table 2.1 and descriptions on page 7 of PQAPP. Specific people identified for the following roles: Abt PQA: Abt WAM: OST WACOR: Karen Milam In the SQAPP, Please note the Addition to Figure 2-1, under OST Division, Associate Director of Economics: Julie Hewitt, acknowledge that Jan Goodwin is the managing branch chief for the CWT study and will therefore review for QA, as well.
Organization chart shows lines of authority & reporting responsibilities	X		Reference PQAPP section 2.1 for overall picture
Project QA manager position indicates independence from unit collecting/using data	X		Reference PQAPP section 2.1 on page 5.
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested	X	X	Section 2.2 – Industry financial survey development; In SQAPP describes the need to understand the financial baseline of the CWT industry by collecting and summarizing information for less than nine facilities, in order to best inform the CWT study.
Identifies project objectives or goals	X	X	Reference PQAPP Table 2.2 ; The purpose of this work assignment is to provide contractor tasks to support EPA's completion of the CWT study by providing support for the collection and summarization of primary data collection from less than nine CWT facilities and less than 9 oil and gas producers.
Historical & background information		X	Can pull in language from the WA background section.
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	X		Section 2.2 – Industry financial survey development. See table 2.2

QAPP Element	Sufficiently Addressed in PQAPP (or N/A to WA)	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
A6. Project/Task Description			
List measurements to be made/data to obtain	X	X	See bulleted list in section 2.3; specifically Industry financial Survey development (only for 308 data-gathering letters to less than 9 facilities) and other bullets related (e.g., Market conditions and trends...)
Notes special personnel or equipment requirements			None needed.
Provides work schedule			No set dates, subject to change for expected unforeseen reasons, not necessary for SQAPP.
A7. Overall Quality Objectives & Criteria			
States overall quality objectives and limits needed to support the project goals and objectives cited in A5	X	X	Section 2.4 of PQAPP (starting page 15). Additionally, discuss overall objective is to collect information meeting CBI through mailings and general CBI procedures under Abt's procedures, transfer of information from individual surveys into a summarized database using a macro, and verification that this data is presented in a summarized way in the study's report that does not compromise the CBI of individual responses.
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements	X	X	section 2.5 of PQAPP, sufficient; acknowledge in SQAPP that appropriate staff have been trained in Adobe management.
Discusses how this training will be provided/the necessary skills will be assured and documented	X	X	section 2.5 of PQAPP, sufficient; Abt can add something here about training new staff on adobe – how they would do it and ensure a smooth transition the EPA WACOR (even though this is not anticipated at this time). This could be helpful anyway for other projects if they were to take the fillable form approach – to know how to train staff on implementing adobe fillable forms.
A9. Project-level Documents & Records			
Describes process for distributing the approved QAPP and other planning documents (and updates) to staff	X		Section 2 of PQAPP: see page 5-7

QAPP Element	Sufficiently Addressed in PQAPP (or N/A to WA)	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
Identifies final work products that will result from the project		X	Section 2.6 of PQAPP; also an industry profile that contains a summary of the collection of 308 letters.
Describes the process for developing, reviewing, approving, and disseminating the final work products and individuals responsible for these processes	X		See Appendix A of PQAPP; Abt add these processes to SQAPP.
B1. Sampling Process Design (Experimental Design)			
Types and number of samples required	X		Not necessary at this stage – have to keep under 9.
Sampling network design & rationale for design	X		not applicable
Sampling locations & frequency of sampling	N/A		not applicable
Sample matrices	N/A		not applicable
Classification of each measurement parameter as either critical or needed for information only	X		Reference past memo Abt wrote under OY2 WA 2-17 review of financial memo questions.
Validation study information, for non-standard situations	X		Not applicable.
B10. Data Management			
Describes standard record keeping & data storage and retrieval requirements	X	X	PQAPP 4.1.4; add detail about ensuring receipt of CBI material, keeping CBI the financial data, how will send to EPA.
Checklist or standard forms attached to QAPP			N/A
Describes data handling equipment & procedures used to process, compile and analyze data (e.g., required computer hardware & software)	X	X	PQAPP 4.1.4; add any other specifics related to this specific effort.
C1. Assessment and Response Actions			
Lists required number, frequency, & type of assessments, with approximate date & names of responsible personnel	X	X	PQAPP 4.1.5; provide a report out to EPA WACOR within 1 month of receipt of last 308 letter response.
Identifies individuals responsible for corrective actions	X	X	PQAPP 4.1.5. identify the individual for this project.
C2. Reports to Management			
Identifies the preparer and recipients of reports	X	X	PQAPP 4.1.5; add name – should do a final report on this once all 308 letter responses have been received.
Identifies frequency and distribution of reports for:	X	X	PQAPP 4.1.6 and PQAPP 4.1.5 only one needed because of how small a sample we are collecting from.
• Project status	X		PQAPP 4.1.6 and PQAPP 4.1.5
• Results of performance evaluations & audits	N/A		PQAPP 4.1.6
• Results of periodic data quality assessments	X		PQAPP 4.1.6 and PQAPP 4.1.5
• Any significant QA problems	X		PQAPP 4.1.6 and PQAPP 4.1.5

QAPP Element	Sufficiently Addressed in PQAPP (or N/A to WA)	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
D1. Data Review, Verification & Validation			
States criteria for accepting, rejecting, or qualifying data	X		PQAPP 4.2.1 is appropriate guidance on this. Individual concerns please bring to the EPA WACOR in a check-in meeting.
Includes project-specific calculations or algorithms	X		PQAPP 4.2.1 No specific calculations needed.
D2. Verification & Validation Methods			
Describes process for data verification and validation	X	X	PQAPP 4.2.1; who will review the data entering; how much will they review (e.g., 50% of data). Perhaps because sample size is so low, we will review 100% of responses.
Identifies issue resolution procedure and responsible individuals	X	X	PQAPP 4.2.1. EPA WACOR is decision maker on all resolutions. EPA WACOR will call facility for any concerns regarding data.
Identifies method for conveying these results to data users	X		PQAPP 4.2.1; EPA WACOR will call user.
D3. Reconciliation with User Requirements			
Describes process for reconciling with DQOs and reporting limitations on use of data	X		PQAPP 4.2.2; EPA WACOR will make final decision.
E1. Telephone Interviews			
	N/A		

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-17	
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:	
Contract Number EP-C-13-039			Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3			Title of Work Assignment/SF Site Name CWT study econ support	
Contractor ABT ASSOCIATES INC.				Specify Section and paragraph of Contract SOW PWS II program Areas, 1st blt - ELGs & PWS A.2.3			
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval				Period of Performance From 08/01/2016 To 07/31/2017			
Comments:							
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund							
SFO <input type="checkbox"/> Note: To report additional accounting and appropriations date use EPA Form 1900-69A.							
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars) (Cents) Site/Project (Max 8) Cost Org/Code
1							
2							
3							
4							
5							
Authorized Work Assignment Ceiling							
Contract Period:		Cost/Fee: \$0.00		LOE: 0			
09/11/2013 To 07/31/2017							
This Action:		\$165,487.00		1,350			
Total:		\$165,487.00		1,350			
Work Plan / Cost Estimate Approvals							
Contractor WP Dated: 08/16/2016		Cost/Fee \$165,487.00		LOE: 1,350			
Cumulative Approved:		Cost/Fee \$165,487.00		LOE: 1,350			
Work Assignment Manager Name Karen Milam <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code:	
						Phone Number: 202-566-1915	
						FAX Number:	
Project Officer Name Ahmar Siddiqui <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code:	
						Phone Number: 202-566-1044	
						FAX Number:	
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code:	
						Phone Number:	
						FAX Number:	
Contracting Official Name Tammy Adams <div style="display: flex; justify-content: space-between;"> <div>  Digitally signed by TAMMY ADAMS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417 Date: 2016.09.07 13:07:11 -04'00' </div> <div>_____ (Signature)</div> </div>						Branch/Mail Code:	
						Phone Number: 513-487-2030	
						FAX Number: 513-487-2545	

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-18								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-C-13-039	Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3	Title of Work Assignment/SF Site Name Benefits Analysis Tools & Meth								
Contractor ABT ASSOCIATES INC.		Specify Section and paragraph of Contract SOW A.2.2, A.6, B.6, C								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 08/15/2016 To 07/31/2017								
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
09/11/2013 To 07/31/2017				0						
This Action:				1,771						
Total:				1,771						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee		LOE:				
Cumulative Approved:				Cost/Fee		LOE:				
Work Assignment Manager Name Joel Corona						Branch/Mail Code:				
_____ (Signature)						_____ (Date)				
Project Officer Name Ahmar Siddiqui						Phone Number: 202-564-0006				
_____ (Signature)						_____ (Date)				
Other Agency Official Name						FAX Number:				
_____ (Signature)						_____ (Date)				
Contracting Official Name Tammy Adams						Branch/Mail Code:				
_____ (Signature)						_____ (Date)				
Digitally signed by TAMMY ADAMS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417 Date: 2016.08.15.14:41:34 -04'00'						Phone Number: 513-487-2030				
						FAX Number: 513-487-2545				

WORK ASSIGNMENT

I. Title: Benefits Analysis Tools and Methodologies

Contractor: Abt Associates

Contract No.: EP-C-13-039

II. Work Assignment Number: 3-18

III. Estimated Period of Performance: Date of Issuance through July 31, 2017

IV. Estimated Level of Effort: 1771 hours

V. Key EPA Personnel:

Work Assignment Contract Officers Representative (WACOR):

Joel Corona

OW/IO/WPS (4101M)

202/564-0006

202/564-0500 (fax)

VI. Background and Purpose:

The 1972 Clean Water Act (CWA) directs the Environmental Protection Agency (EPA or Agency) to develop national technology-based regulations for categories of industries that discharge pollutants directly to surface waters (effluent guidelines (ELGs)) or that discharge pollutants indirectly through sewage treatment plants (pretreatment standards). The CWA also directs EPA to develop national technology-based regulations for new industrial facilities (new source performance standards).

Under Executive Orders 12866 and 13563, EPA is required to estimate the potential benefits and costs to society. As such, the purpose of this Work Assignment (WA) is to support the development of tools that can be used to provide such estimates. For example, the Hydrologic and Water Quality System (HAWQS) is designed in such a way to assist in national level water quality modeling, useful in the context of benefits analysis for rule-making.

Under this work assignment the contractor shall conduct all analyses requiring the collection and manipulation of data and models in accordance with the EPA approved quality assurance project plan (QAPP) that will be developed under Task 2 of this work assignment. The QAPP shall describe the procedures for assuring the quality of the primary and secondary environmental and economic data used for this work assignment.

In carrying out the tasks specified in this work assignment, the contractor may be called upon to build upon and continue work performed under WAs 1-18 and 2-18 under this Contract EP-C-13-039. The work performed under this work assignment will not duplicate work conducted under the previous work assignments, but will cover tasks not completed under WA 2-18 (for

example, tasks that were delayed because the HAWQS modeling system was not ready for Abt to use).

VII. General Requirements of the Work Assignment and Schedule

Confidential Business Information: During the course of the work assignment, the contractor will not be accessing and evaluating CBI.

Budget Reporting: The contractor under this work assignment is required to report to the EPA WACOR and Contract Level Contracting Officers Representative (CL-COR) when 75 percent of the approved Work plan budget has been depleted.

Identification as Contracting Staff: To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor shall refer all interpretations of policy to the EPA WACOR.

Limitation of Contractor Activities: The contractor shall submit drafts of all deliverables to the EPA WACOR for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor shall incorporate all EPA WACOR comments into all final deliverables, unless otherwise agreed upon by the EPA WACOR. The contractor shall adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), EPA CL-COR, and EPA WACOR.

Quick Response: Under this Performance Work Statement (PWS) the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

Travel: EPA does not anticipate the need for non-local travel by contractor employees and/or subcontractors to support the scope of this work assignment.

Deliverable Formatting: All memos, draft comments, summaries and responses, and chapters shall be provided in hard copy and in electronic form using Word and/or Excel/Access, ArcView, or, in special cases another software program agreed to by EPA. Memos shall be written in a manner which will make them easy to turn into draft chapters for the Final Report. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the EPA WACOR.

VIII. Performance Work Statement

The EPA WACOR will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the EPA WACOR's comments.

Task 1 - Prepare Work Plan (30 hours estimated LOE)

The contractor shall prepare a work plan within 15 calendar days of receipt of the work assignment. The work plan shall outline, describe and include the technical approach, resources, timeline and due dates for deliverables, a detailed cost estimate by task, and a staffing plan. The EPA WACOR, the CL-COR and the CO will review the work plan. However, only the CO can approve/disapprove, suggest revisions, or change the work plan. Official revisions will be given to the contractor by the CO. The contractor shall prepare a revised work plan incorporating the CO's comments, if required.

A biweekly update call with the EPA WACOR will be required for this work assignment to discuss progress on deliverables, costs, and other potential issues.

Deliverables and schedule under Task 1

1a. Work plan within 15 calendar days of receipt of work assignment.

1b. Biweekly Update Call.

Task 2 - Quality Assurance (31 hours estimated LOE)

2.a Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 2-1** below.

Table 2-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction and data manipulation

Table 2-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

2.b Quality Assurance (QA) Project Plan Requirements

The Contractor has previously prepared a contract-wide Programmatic QAPP (PQAPP) for Contract EP-C-13-039. This PQAPP describes, in a single document, information that is not site or time-specific, but applies throughout the program (i.e., the duration of the contract). When tasked with preparing the PQAPP, the Contractor was informed that the PQAPP would need to be supplemented with project-specific details to support individual work assignments that involve the collection, generation, evaluation, analysis or use of environmental data.

The activities in this work assignment involve the collection, generation, evaluation, analysis or use of environmental data. Therefore, the Contractor must prepare a supplemental QAPP (SQAPP) that describes specific QA strategies that will be used when performing environmental data operations to support the objectives of this work assignment. The supplemental QAPP shall provide enough detail to clearly describe:

- Specific objectives of the project(s) supported by this work assignment, including typical questions that must be answered when using and generating primary environmental data through water quality modeling, as well as other data-related activities as they should arise.
- The type of data to be collected, generated, and used under this work assignment to support the project objectives— including data from search engines, federal databases, EPA data bases— as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- The quality objectives needed to ensure the data will support the project objectives; and
- The quality assurance/quality control (QA/QC) activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The Contractor's PQAPP covered these areas in general, and in some cases was sufficient to support the needs of this project. In other cases, an SQAPP is needed to provide additional detail not found in the PQAPP. The Contractor shall prepare and submit an SQAPP, consistent with the PQAPP and SQAPPs for other similar projects, that addresses these additional areas and submit the SQAPP to EPA for approval after developing the design for the HAWQS baseline described

under subtask 4B. The Contractor also shall use an active voice when writing the SQAPP.

2.c Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure that the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting this project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Technical Support Documents, Study Reports, Analytical Methods) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the Engineering and Analysis Division (EAD) QA Coordinator (or designee) to determine if the QA/QC strategies implemented for the project sufficiently support the intended use of the data. Upon receipt, the EPA WACOR will review each applicable report and certify whether the Contractor has adhered to the QA requirements documented in the Contractor's SQAPP.

The Contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the Contractor may include this as a part of the contract-required monthly financial/technical progress report.

2.d QAPP Schedule

Within 15 days after submittal of the HAWQS baseline run described in subtask 4B, the Contractor shall prepare and submit an SQAPP that addresses primary data related to this project.

- All activities performed under this work assignment prior to submission and approval of the SQAPP must comply with the QA/QC strategies documented in the Contractor's approved PQAPP.
- Any and all deviations from the PQAPP must be documented in the SQAPP that is submitted to EPA for approval.
- EPA will review the submitted SQAPP and provide the Contractor with written approval or comments within 15 days of receiving the Contractor's submission.

- The Contractor shall revise the submitted SQAPP within 10 days of receipt, unless otherwise instructed by the EPA WACOR.
- If the SQAPP is not fully approved (signed) within 50 days after submission of the SQAPP, the Contractor must stop performing any activities that involve the collection, generation, evaluation, analysis or use of environmental data, unless explicit written permission to continue doing so is provided by the EPA WACOR.

2.e Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. (This includes PQAPPs and SQAPPs.) The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractor should indicate which results were obtained using the tools (standard operating procedures (SOPs), checklists, and guidelines) that the Contractor designates as confidential so that the EPA WACOR can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA WACOR, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA WACOR will notify the Contractor through written technical direction.

2.f QA Deliverables

Deliverable	Projected Schedule Date
Supplemental QAPP	Within 15 days after submittal of subtask 4B deliverable
Revised SQAPP reflecting EPA comments, if needed	Within 10 days of receipt of EPA comments on initial submission
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly throughout the WA period of performance

Task 3 - Prepare Standardized Naming Convention and Version Control Memorandum (5 hours estimated LOE)

The contractor shall prepare and submit a memorandum that proposes a standardized naming convention and version control (SNCVC) for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WACOR will review the memorandum and then provide the contractor with written notification of approval or edits that need to be made. The contractor shall prepare a revised SNCVC memorandum incorporating the EPA WACOR's comments, if required. After receiving notification of approval the contractor will use this standardized convention for all deliverables associated with the work assignment(s). The EPA WACOR may request the contractor through written technical direction to amend the SNCVC memorandum at any point during the WA.

Deliverables and schedule under Task 3

3a. SNCVC memorandum within 7 calendar days of work plan approval.

3b. If required, revised memorandum within 3 calendar days of receipt of comments from the EPA WACOR, at technical direction of EPA WACOR.

Task 4 - Provide Technical Support for the Hydrologic and Water Quality System (HAWQS) (830 hours estimated LOE)

The contractor shall provide technical support related to the Hydrologic and Water Quality System (HAWQS). HAWQS has been developed in partnership with the United States Department of Agriculture and Texas A & M University. HAWQS is currently undergoing calibration and validation, and will subsequently be externally peer reviewed. This will conclude the development of the core HAWQS model. In the future, EPA may be interested in additional post-processing modules or other user-friendly enhancements.

Subtask 4A

Under this subtask, and by written technical direction, the contractor shall prepare 3-5 technical memoranda, requirements analyses, feasibility analyses, or other such technical or user-aimed documents. Examples *could* include:

- Options for different calibration/validation approaches for HAWQS
- Lessons learned on how using HAWQS has resulted in time and/or resource efficiencies.
- Further recommendations on how to apply a meta model framework to HAWQS (as initially addressed in EPA Contract EP-C-07-023, Work Assignment 5-39)

Subtask 4B

Under this subtask, the contractor shall provide technical support in developing a national baseline run or set of regional runs for HAWQS in such a way to be of most use to future HAWQS users. This subtask will include identifying variables and time periods of interest, as

well as other issues that may affect the feasibility of conducting a national baseline run.

Subtask 4C

Under this subtask, subsequent to the review of deliverables under Subtask 4B, and by technical direction by EPA, the contractor shall conduct a national baseline run (or its equivalent) using HAWQS.

In addition, contractor support may include responding to management questions about economic issues, preparing briefing and meeting materials (which may include but are not limited to short briefing documents and PowerPoint presentations). The contractors may also be requested to participate in and/or conduct briefings, assisting Agency economists in their review of analyses conducted by EPA and its contractors, and providing technical review of materials prepared by Agency staff.

The contractor shall prepare draft deliverable material for EPA WACOR review and approval.

Once the EPA WACOR reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WACOR's comments.

Deliverables and schedule under Task 4

4a. Draft deliverables and due dates to be determined by written technical direction.

4b. Final deliverable due dates to be determined by written technical direction.

Task 5 - Provide Technical Support for Benefits Analysis Methodologies (185 hours estimated LOE)

The contractor shall provide technical support related to environmental assessment, and economic cost and benefit assessment issues associated with benefit cost analysis. EPA is interested in advancing the Agency's ability to conduct benefits analysis related to water quality improvements. In addition to work planned in WAs 1-20, 2-20, 2-35, 3-20, and 3-35 of this contract (in support of EPA cross-office benefits work), EPA is interested in related and unrelated methodological questions. Under this task, the contractor shall provide technical support in the form of 2-3 technical memoranda or other documents to support methodological improvements in EPA's ability to conduct benefits analysis.

Examples of topics *could* include:

- Approaches to conducting a retrospective benefit-cost analysis of the CWA.
- Identification of coverage gaps (geography, waterbody type, water quality level, water quality change, etc.) in existing stated preference work and recommendations on how to resolve existing issues

Such support may also include responding to management questions about economic issues,

preparing briefing and meeting materials (which may include but are not limited to short briefing documents and PowerPoint presentations). The contractors may also be directed to participate in and/or conduct briefings, assisting Agency economists in their review of analyses conducted by EPA and its contractors, and providing technical review of materials prepared by Agency staff.

The contractor shall prepare draft deliverable material for EPA WACOR review and approval.

Once the EPA WACOR reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WACOR's comments.

Deliverables and schedule under Task 5

5a. Draft deliverables and due dates to be determined by written technical direction.

5b. Final deliverable due dates to be determined by written technical direction.

Task 6 - Provide Technical Support for the Trash Free Waters Initiative (345 hours estimated LOE)

In support of the Trash Free Waters Initiative, EPA has need for quantitative analysis of marine debris impacts. The program has identified a need for a “national number for marine trash abatement” and, in pursuit of that goal, EPA is interested both in existing economic literature and the potential for additional research pursuant to aquatic trash.

Subtask 6A

Under this subtask, and in consultation with the WACOR, the contractor shall provide a comprehensive review of existing literature on topics relating to the prevention, capture, and management of debris destined for marine environments.

Subtask 6B

Under this subtask, subsequent to review of deliverables under Subtask 6A and pending technical direction from the WACOR, the contractor shall develop summary tables and a discussion of the options for explicitly linking aquatic trash abatement or prevention to economic benefits in order to inform the work of the Trash Free Waters Program. This discussion shall include a synthesis of best current practices available and possible future directions (keeping in mind the goal of supporting improved benefit-cost analyses for Marine Trash Abatement). Based on the literature search, the contractor shall also identify the surface water benefit categories most important/most valuable to people. The contractor shall specifically focus on the limitation of the existing literature and data with respect to national considerations.

Subtask 6C

Under this subtask, and subject to written technical direction, the contractor shall provide additional technical support for the Trash Free Waters Program in the form of 1-2 technical memoranda or other similar documents of varying length.

The contractor shall prepare draft deliverable material for EPA WACOR review and approval. Once the EPA WACOR reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WACOR's comments.

Deliverables and schedule under Task 6

6a. Draft deliverables and due dates to be determined by written technical direction.

6b. Final deliverable due dates to be determined by written technical direction.

Task 7 - Provide Technical Support for Economics related to Harmful Algal Blooms (HABs) (345 hours estimated LOE)

Harmful algal blooms (HABs) are a threat to public and social health of communities across the nation. This task will complement and build on extensive research by EPA and others in this area, by providing technical support related to the economic impacts of HABs. For example, **HABS and Hypoxia: An Interagency Report** recommends evaluating the socioeconomic impact of HABs and hypoxia, and the costs of mitigation, among other actions. EPA may need specific support if undertaking this recommendation. Under this task, the contractor shall provide technical support related to the economics of HABs in the form of 2-3 technical memoranda or other documents of varying length.

These *may* include:

- Comprehensive review of the literature related to the economic impacts of HABs
- Technical memorandum on methodological approaches to measuring the economic impacts of HABs, including differentiating between approaches more appropriate at local, regional, and national scales

The contractor shall prepare draft deliverable material for EPA WACOR review and approval. Once the EPA WACOR reviews the draft materials and provides revisions and/or comments to the contractor, the contractor shall prepare a final version of the materials incorporating the EPA WACOR's comments.

Deliverables and schedule under Task 7

7a. Draft deliverables and due dates to be determined by written technical direction.

7b. Final deliverable due dates to be determined by written technical direction.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-18	
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:	
Contract Number EP-C-13-039		Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3		Title of Work Assignment/SF Site Name Benefits Analysis Tools & Meth			
Contractor ABT ASSOCIATES INC.				Specify Section and paragraph of Contract SOW A.2.2, A.6, B.6, C			
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval				Period of Performance From 08/15/2016 To 07/31/2017			
Comments:							
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>							
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.							
SFO <input type="checkbox"/> (Max 2)							
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars) (Cents) Site/Project (Max 8) Cost Org/Code
1							
2							
3							
4							
5							
Authorized Work Assignment Ceiling							
Contract Period:		Cost/Fee: \$0.00		LOE: 0			
09/11/2013 To 07/31/2017							
This Action:		\$193,107.00		1,771			
Total:		\$193,107.00		1,771			
Work Plan / Cost Estimate Approvals							
Contractor WP Dated: 09/01/2016		Cost/Fee \$193,107.00		LOE: 1,771			
Cumulative Approved:		Cost/Fee \$193,107.00		LOE: 1,771			
Work Assignment Manager Name Joel Corona <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-564-0006 FAX Number:	
Project Officer Name Ahmar Siddiqui <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-566-1044 FAX Number:	
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name Tammy Adams <div style="display: flex; justify-content: space-between;"> <div> TAMMY ADAMS Digitally signed by TAMMY ADAMS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417 Date: 2016.09.15 12:56:58 -0400 _____ (Signature) </div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2030 FAX Number: 513-487-2545	

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-18				
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001				
Contract Number EP-C-13-039			Contract Period 09/11/2013 To 07/31/2017 Base Option Period Number 3			Title of Work Assignment/SF Site Name Benefits Analysis Tools & Meth				
Contractor ABT ASSOCIATES INC.					Specify Section and paragraph of Contract SOW A.2.2, A.6, B.6, C					
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval					Period of Performance From 09/20/2016 To 07/31/2017					
Comments: Adding Alternate WACOR, therefore, a zero-cost amendment. A work plan is not required.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations date use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: Cost/Fee: LOE: 09/11/2013 To 07/31/2017										
This Action: 										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: Cost/Fee LOE:										
Cumulative Approved: Cost/Fee LOE:										
Work Assignment Manager Name Joel Corona <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-564-0006 FAX Number:			
Project Officer Name Ahmar Siddiqui <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-1044 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Tammy Adams <div style="display: flex; justify-content: space-between;"> <div> TAMMY ADAMS _____ (Signature) </div> <div> Digitally signed by TAMMY ADAMS DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=TAMMY ADAMS, dnQualifier=0000018417 Date: 2016.09.20 10:38:52 -04'00' _____ (Date) </div> </div>							Branch/Mail Code: Phone Number: 513-487-2030 FAX Number: 513-487-2545			